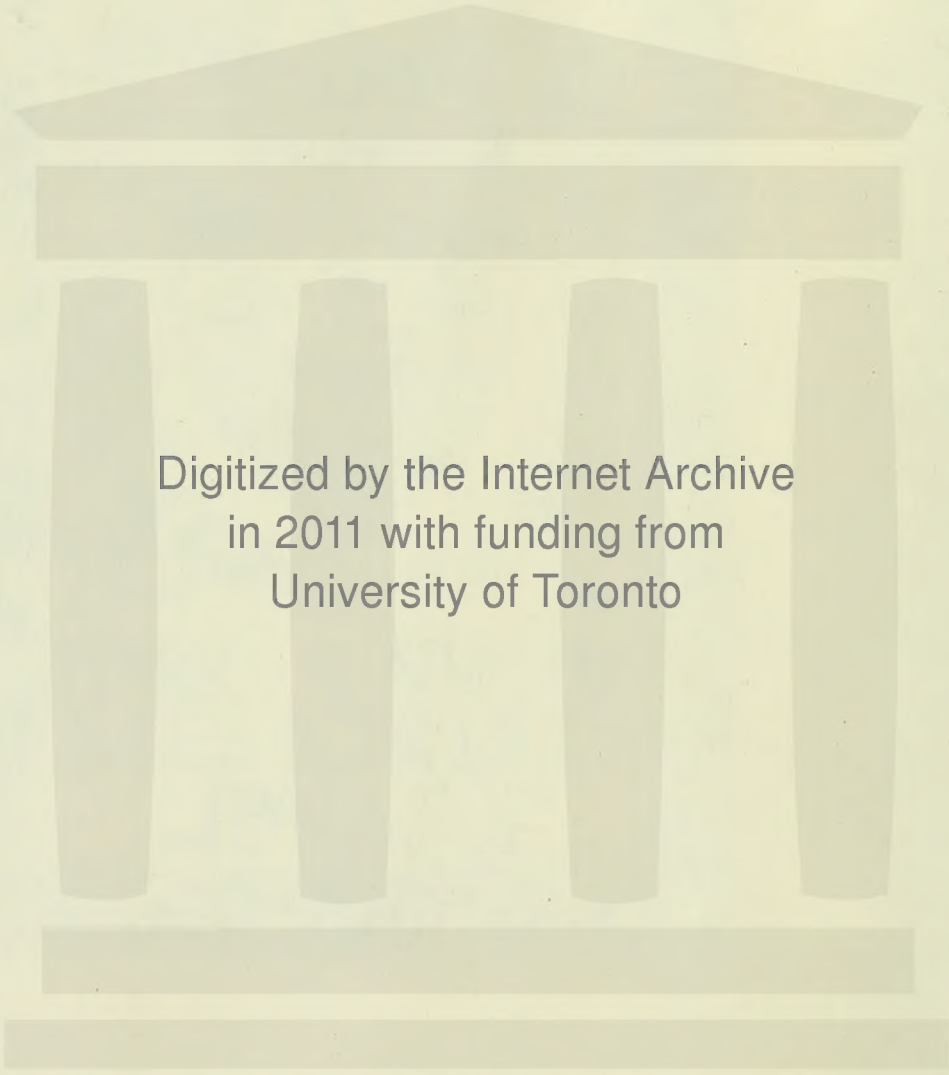


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VOL. 5 No. 1

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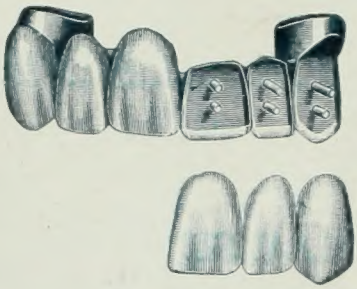
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OPPORTUNITY

By the late Senator John J. Ingalls.

MASTER of human destinies am I!
Fame, love and fortune on my footsteps wait,
Cities and fields I walk: I penetrate
Deserts and seas remote, and passing by
Hovel and mart and palace, soon or late
I knock unbidden, once, at every gate!
If feasting, rise; sleeping, wake before
I turn away. It is the hour of fate,
And they who follow me reach every state
Mortals desire, and conquer every foe
Save death. But those who doubt or hesitate,
Condemned to failure, penury or woe,
Seek me in vain and ceaselessly implore;
I answer not, and I return—no more.

Ash's Canadian Monthly Circular

Vol. V. TORONTO, JULY 1, 1914 No. 1

ANALGESIA IN DENTISTRY*

By E. I. McKESSON, *Anæsthetist, Toledo, Ohio.*

In the beginning, let me give you my personal experience with N_2O and O analgesia from the standpoint of the patient. While other patients may show some variations, still these experiences seem to be sufficiently common to others to be considered the usual.

Recently, while taking analgesia for cavity preparation, I took great care in making a mental record of just the sensations I experienced while the work was being done. After I had taken four breaths of nitrous oxide and oxygen, a sensation or wave of warmth passed over me, followed in two breaths by huskiness of the voice, which was soon followed by a thick, large sensation. At this moment the bur was applied to the cavity, but it was still sensitive. During the next eight or ten breaths a slight tingling of the skin, with a tired, relaxed feeling, developed.

In order to test the progress of analgesia, the doctor requested me to bite my finger; we both noticed that it missed my mouth, and I found it was numb, so he began work.

At the point where the pain was sharp before, the bur now gave a sensation of warmth, but was not disagreeable. As the analgesia deepened, the doctor seemed to be farther away, and the sounds which a moment before were exaggerated now seemed to quiet down. At this moment the air-valve was opened a little wider to prevent further advance of analgesia. Now I had developed a general feeling of numbness, apathy, and indifference. Even the sensation of warmth was now completely suppressed, although I answered questions and was perfectly rational. Time passed slowly.

At another time I took nitrous oxide and oxygen nearly to anæsthesia (but without loss of consciousness), for the removal of adenoids. As a guide for the time to operate, I decided to inhale

*Read before the Northern Indiana Dental Society, 1913. From the *Dental Summary.*

the anæsthetic until the panels of a door which I was looking at became blurred. At that moment I removed the face inhaler, held my breath so as not to dilute the analgesia, and opened my mouth for the operation. I felt a pressure on the posterior pharyngeal wall from the curette, and, later, the warm blood running down my throat, but there was no pain whatever, and I recovered completely in about five minutes.

In the latter case I was nearly anæsthetised, since my vision was disturbed, which is one of the last of the special senses to surrender to anæsthesia.

The state of analgesia is made possible by the fact that in the development of general anæsthesia the first special sense to surrender is the sense of pain, leaving the other special senses less influenced. Loss of consciousness has been arbitrarily set up as the dividing line between analgesia and anæsthesia; but the one may merge so gradually into the other, that if the eyes are kept closed from the beginning, and no work is attempted, it is impossible to determine the moment when consciousness is lost. When all the special senses are gradually subdued it results in sleep. The depth of analgesia obtained is in proportion to the concentration of the nitrous oxide in the nitrous-oxide-air-oxygen mixture, and this gradual merging into anæsthesia is put to practical use, not only in meeting the variable intensities of pain, but in obtaining mental lethargy.

In its last analysis the technique for giving nitrous oxide for analgesia consists in diluting the gas with enough air and oxygen to prevent loss of consciousness on the one hand, and yet of sufficient concentration for the relief of pain on the other. It is necessary, however, to master many details in technique to secure satisfactory results. First of all, it is necessary to recognize the limitations of analgesia; not to attempt the removal of a live pulp nor an extraction under its influence; not to expect that analgesia, unaided by suggestion, will make a fearless patient out of a fearful one. But if the sensations produced in securing analgesia are also utilized in strengthening mental suggestion, success will be obtained. Every operator, of course, will develop his own line of suggestions to meet the requirements of the particular patient. Probably he will exert his greatest influence in the way of suggestion by his actions, which should inspire the patient with the fact that he "knows his business." Many successful operators tell their patients the sensation that will be experienced just as it is coming on, and keep up a line of light conversation through the entire operation.

The second point to be understood is in regard to the air and oxygen used to dilute the nitrous oxide.

Years ago nitrous oxide anæsthesia was limited to short operations, because we did not use oxygen with it. Later, they tried to prolong anæsthesia by using air as a source of oxygen supply; but too much air had to be used to get the required amount of oxygen,

and anæsthesia could not be obtained on account of the high dilutions of N_2O with air. The use of pure oxygen with nitrous oxide to-day makes anæsthesia of a prolonged nature not only possible, but the safest and best known.

In analgesia we do not use as much nitrous oxide, and so we are permitted to dilute with air, but we will need pure oxygen also. Why? Because the amount of oxygen obtainable from the air even in analgesia is insufficient to eliminate the element of asphyxia in all cases. During the administration of anæsthesia for more than four thousand prolonged surgical operations, I have made frequent blood-pressure, pulse, and respiration determinations during each of these cases. I find that asphyxia is the only common cause for the elevation of blood pressure during an anæsthetic. Eliminate asphyxia and blood pressure does not rise with nitrous oxide and oxygen properly administered, nor does it appreciably fall. In analgesia we want to continue the administration for considerable periods, and we do not want blood pressure disturbed.

How much oxygen is necessary to eliminate asphyxial symptoms, which are: rapid respiration, cyanosis, dilated pupils, elevation of blood pressure, and slowing of pulse? Every patient has his own standard, and it is impossible to tell, before anæsthesia, the exact mixture which will just eliminate asphyxial symptoms in a given case; but there is a general rule which is usually true—that the alcoholics, arterio-sclerotics, muscular, and obese patients require considerably more oxygen than others, and that poorly nourished, anæmic patients require less oxygen. There are patients who do well on as small an amount of oxygen as seven per cent., while others, apparently in the same degree of health, may require as much as twenty per cent. None require more than is in the air (twenty per cent.), unless they are suffering from an acute circulatory embarrassment or a general toxemia, such as is seen in acute peritonitis.

In analgesia we can always get twenty per cent. oxygen, if we use pure oxygen in our apparatus; but we can never get twenty per cent. if we dilute the N_2O with air only, since the air itself contains only twenty per cent.

It is a matter of economy to dilute the N_2O with the air, and thus obtain as much oxygen in that way as possible, but it is never possible to get enough to always be on the safe side without using pure oxygen also. We are safe only when using a total of from eighteen to twenty per cent. oxygen. For example, the average case takes one-third gas-oxygen and two-thirds air to produce analgesia. The air taken furnishes two-thirds of twenty per cent., or thirteen per cent. of oxygen. The other seven per cent. necessary is obtained from the pure oxygen supply in the apparatus. The alcoholics, the apoplectics, the plethoric and obese patients, who require more gas and less diluting air to produce analgesia, are also the class which require a full supply of oxygen; so, as the air

is cut down to secure analgesia, the pure oxygen must be increased in proportion.

Now, we might use pure oxygen entirely as the diluting gas with as good results, but there would be no advantage gained and the cost of analgesia would be greatly increased. The erroneous idea that pure oxygen causes excitement, you may disprove once and for all for yourself by sitting down to an apparatus and inhaling the contents of a whole tank full without a breath of any other gas; breathing normally, of course.

In a particular patient, we may have certain disease conditions, such as diabetes, nephritis, pneumonia, pulmonary tuberculosis, etc., which would contra-indicate the administration of an anæsthetic such as ether if the operation were trivial—the removal of a scar for cosmetic purposes, for example. But if the operation were a life-saving procedure we recognize no contra-indication, give it, and take the chances even with ether if it is not possible to get the better anæsthetic.

In administering N_2O and O analgesia it isn't necessary to take any chances with the safety of our patients, for it is in our power to eliminate absolutely the only danger—asphyxia.

Our third consideration will deal with the technique in detail.

Slight variations in technique are necessary in using the various forms of apparatus now on the market. What I shall have to say in this portion of my paper will have reference to the particular technique used in the clinic to follow.

The best time to administer analgesia is from three to four hours after meals. All tight clothing should be loosened, and the patient should be comfortably seated in the chair with the head-rest well forward, tilting the chin slightly downward to discourage oral respiration when the mouth is open.

Before applying the nasal inhaler, the bags should be only one-half filled with their respective gases, so that there will be no forcing of gas on to the patient. If the automatic attachments are used, one need only to open the tank valves wide open, when the bags will be kept one-half filled without attention during the operation.

The mixing valve is set for seven per cent. O and ninety-three per cent. N_2O from the beginning, and usually this mixture is not changed throughout the analgesia.

The nasal inhaler is now applied and adjusted to fit snugly and in such a position that respiration is free. The breathing tube is then brought up between the pads of the head-rest and connected with the inhaler so that if the patient leans forward the inhaler will not be dislodged. Make sure the inhaler does not allow air to leak in under it. If the patient is an adult, the re-breathing bag is set for one-half the volume of tidal respiration; if a child, it is set about one-half its respiratory volume, depending upon the child's age.

As the patient begins to inhale the gases we may follow one of two methods for inducing analgesia—a rapid method, or a slow method. To quickly secure analgesia in from six to twenty breaths, keep the air valve closed until analgesia is established, then open it partly and begin operating. The slow method starts the patient with the air valve about one-fourth open and requires from four to six minutes; when analgesia of the desired depth is secured, it is opened a little wider and the operation is cautiously begun while the patient continues to breathe through the nose. If the mouth begins to close, the eyelids droop, and answers to questions are sluggish, the patient is on the verge of anæsthsia, and the air valve should be opened a little wider; or, on the other hand, if the patient indicates pain, the air valve is closed a little. This constitutes the manipulative part in the control of the apparatus in most cases.

If anæsthesia is desired, close the air valve for a minute or two and cover the mouth with rubber-dam, the hand, or a quartered hollow rubber ball to keep out the air; the depth of anæsthesia being controlled by the percentage of oxygen in the mixture.

Re-breathing.

Re-breathing is being practised almost universally in nitrous oxide and oxygen anæsthesia and analgesia.

My reasons for using the re-breathing method are fourfold:—

1. To prevent over-ventilation of the blood (by rapid or deep breathing), thus reducing the elimination of CO_2 by the lungs to its normal, and combating shock.

2. To stimulate the shallow breather to take full-size inhalations, thus increasing the gas absorption in the lungs, and securing desired results which might be more or less unsatisfactory without it.

3. To prevent the waste of gas which has not reached the deep portion of the lungs and has not been used, although it has been in the upper air passages.

4. Incidentally, to reduce the cost of analgesia.

From some accounts published in the various journals concerning the cost of analgesia, it is evident that there is an enormous waste of gas and money in some of the technique employed. They seem to think that it costs $2.00 or $3.00 (8s 4d or 12s 6d) an hour to maintain analgesia. It should cost by the method I describe, and will show you in the clinic, from 15 to 60 cents (7½d to 2s 6d) an hour at the present prices of gas and oxygen. This means that no good gas is wasted, and it means also that the re-breathing method is employed.

How much should we re-breathe? In rough figures, one-half of each exhalation should be stored up for re-inhalation along with the fresh gases at the next breath. The first portion of each exhalation should be the part selected for re-breathing, because it contains

140 c.c. of gases that did not reach below the bronchi, and, therefore, took no part in gaseous interchange, and is as good as it was when it came from the tanks. The latter portion of exhalation is rich in CO_2, since it came from the deep or alveolar portion of the lungs, and most of this portion should be eliminated at each exhalation and not re-breathed. This selection is done automatically after adjusting the re-breathing bag to the desired capacity.

The volume of tidal respiration may be measured accurately by adjusting the re-breathing bag so that an exhalation just fills it. If the capacity is found to be 500 c.c.—a normal tidal respiration—the bag is set for 250 c.c. of re-breathing. But if the tidal respiration is less than 300 c.c. it is too small for an adult to get good absorption in the lungs, and the bag should be left at this point for a minute or two until the patient develops a larger breath and then set for one-half the tidal capacity, whether it be 200, 250, or 300 c.c.

The rate of respiration multiplied by the volume gives the consumption of gas per minute, or the ventilation. The normal ventilation is from 7,000 c.c. to 8,000 c.c. per minute in rest. We want the patient to take this much of air, oxygen, and gas in analgesia as well as in anæsthesia. But if by rapid or deep respiration, or both, the patient consumes more than this amount, he is over-ventilating, and the amount of over-ventilation should be balanced by requiring him to re-breathe this excess. In this way excessive elimination of CO_2 from the blood is also prevented, and shock is not so liable to develop during operation. So the re-breathing bag is a means of keeping the ventilation within normal limits, and incidentally a means of saving gas.

Since analgesia merges into anæsthesia, let us review the symptoms which indicate the development of anæsthesia. They may be enumerated in their usual order on onset as follows:—

1. Closing mouth.
2. Closing eyes, or staring as if blind.
3. No response to questions.
4. Automatic, mechanical respiratory rhythm.
5. Snoring, rarely.
6. Relaxed eyelids.
7. Eyes rotating slowly or stationary, pupils sluggish.
8. Purplish pink colour of nails and lips.
9. General relaxation.

Finally, particular caution should be exercised in the care of inhalers and breathing tube, that they are not a means of communicating infection from one patient to another. A few minutes' bath of the inhalers and tubing in a 1 to 5,000 or 10,000 cyanide of mercury solution, followed by a rinse in water, and used with the inside of the tubing wet, will prevent this contamination and will ensure a dust and germ-free gas for your patient.

In closing, I would like you to consider the following points:—

1. That N_2O analgesia and anæsthesia differ from each other in degree only, the one being a continuation of the other, and as such we may obtain any necessary degree of anæsthesia to meet a corresponding degree of pain.

2. The sensations incident to analgesia should be utilized in strengthening mental suggestion in those cases not easily controlled.

3. Asphyxia, the only danger in N_2O anæsthesia or analgesia, may be eliminated absolutely in the latter by administering at least eighteen to twenty per cent. of oxygen with the gas. A portion of this oxygen must come from pure supply.

4. Air as a source of oxygen supply is insufficient to eliminate asphyxia in all cases; oxygen used alone is expensive; but a combination of air and oxygen makes the ideal diluting mixture for N_2O analgesia.

5. Accurate re-breathing is a means of regulating the ventilation; stimulating it when insufficient for adequate absorption of gases in the lungs, and reducing the fresh gas consumption when the patient would over-ventilate if left alone. Incidentally, it saves gas and reduces the cost.

DISCUSSION.

Dr. N. W. Hiatt—The Northern Indiana Dental Society is certainly very fortunate in getting Dr. McKesson to prepare the paper he has just read. It is a very excellent paper, and on a subject we are all much interested in. I am sorry, however, that I was selected to open the discussion, as my knowledge of, and experience with, nitrous oxide and oxygen is limited. Dr. McKesson speaks of his personal experience while in the analgesic stage. In my limited experience, I have seldom found two patients that have experienced the same sensation when in the analgesic condition. There is no question in my mind but that suggestion plays a very important part in the administration of nitrous oxide and oxygen.

I have always tried to impress my patients with the fact that there would be no pain, that there was absolutely no danger, and that I was there to take care of them. But, with all this preliminary talk or preparation, some patients will complain of a disagreeable smothering sensation, and plead with me to take the inhaler away: this in cases where I know, absolutely, that the patient is taking the N_2O and O finely, and have continued the analgesic stage successfully.

The essayist speaks of having had adenoids removed from himself while in the analgesic stage. I have given the N_2O and O for a nose and throat specialist in several cases, but only when the patient was completely unconscious. I don't believe the essayist means to recommend operations of this kind where the patient is in a semi-conscious condition. It seems to me that there is a danger

point at this stage, should there be pain while doing the operation. I am sure there are some patients who would feel pain during operations of this character, as I have had cases where it was impossible to excavate a sensitive tooth while in the analgesic stage, and was compelled to carry my patient to anæsthesia before completing the operation.

I talk to my patients in a very low voice all the time I am working, and have found that one of the best arguments to relieve fear in the patients is that it is up to them to breathe N_2O and O or not to breathe it; that it is not forced on to them, but that they will have to draw it from the bags by their own efforts. There is no question but that you have to educate your patients in the use of analgesia, for when you tell them to inhale N_2O and O they have all kinds of visions of things that might happen.

Several years ago, when nitrous oxide was first used by the dental profession, my preceptor bought a gasometer. It looked something like a coffee urn that is used in the restaurants, the gas coming up through water from the cylinder. It was only used then for extracting, and the effect it had on some patients was very amusing. There was one family of five or six girls that had teeth extracted with the use of it, and in each instance they would commence to laugh, and it would take several trials before we were able to complete the operation. They claimed they knew what they were doing, but couldn't help it. A great many of the suggestions as outlined by the essayist for the use of N_2O and O in analgesia are so similar to those I have tried to employ, that I have no criticism to offer. On the other hand, a sstated in the beginning, I don't feel that my limited experience would justify me in criticizing the statements made that are comparatively new to me.

In closing, I wish personally to thank Dr. McKesson for his paper, as it has certainly given me some new ideas that I will profit by.

Dr. Clem Shidler—I don't know what you have got me here for—it is all your Secretary's fault. He asked me to discuss this subject. I told him, as well as I could, what I knew about it, and it didn't take me long to say that. I asked him to get somebody else, but you see my name on the programme. I didn't know it until I received the programme. That is my reason for being here.

I received Dr. McKesson's paper, and I want to compliment him for the scientific manner in which he has handled this subject. I think it would be better if more of the dentists were going into these things a little more thoroughly. By dentists I mean myself included with some of the rest of you.

My experience in giving nitrous oxide and oxygen as an analgesic is so limited that I do not feel capable of discussing that question—very thoroughly, at least. There are a couple of statements—or one statement, at least—in Dr. McKesson's paper that I would

like to call his attention to. It is in the fore part of the paper; and not being here during the early part of the discussion, I want to ask him about that statement, and that is this: he says the state of analgesia is made possible by the fact that in the development of general anæsthesia the first sense to surrender is the sense of pain. If in the present draft of the paper that is present, I want to ask whether or not that is entirely true. If the sense of pain is the first one to surrender, at least in its entirety, why, in the extraction of the pulp, must the patient be anæsthetized? Further, if that be true, why is it necessary to give an anæsthetic for any major operation? I realize the sense of pain is dulled, but does not stop entirely during the stage of analgesia. If there were not pain, it would not be necessary at any time to take the patient beyond the stage where the other senses were numbed. The extent of the anæsthesia, as a rule, so far as my limited experience, depends upon the extent of the operation. That is one criticism I find with the paper. The rest of it I enjoyed immensely, and I am sure I will benefit by it in the matter of anæsthesia.

I do not, at the present time, use N_2O and O for analgesia. Dr. McKesson says all of you who use N_2O and O for analgesia should be sure to use your mental suggestion. Now, in my practice I have been able to use this same mental suggestion, and I use it unconsciously, and I use it with children who come to me by explaining to the child just exactly what is going to be done, that it would hurt or would not hurt, as the case may be, and always absolutely telling them the truth. To my mind a great deal of the credit that is given N_2O and O is due to mental suggestion. Now, just yesterday, I prepared two cavities for a young lady, perhaps sixteen years old, who was very fearful of being hurt. Now I treated her just as I would treat children when they first come to the office. I told her positively that the first revolution of the bur would not hurt. I asked her to relax, and I prepared a fairly good-sized cavity, and she said she had not experienced any pain whatever. I followed that by preparing a lower bicuspid for a gold inlay. I talked to her all the time. The whole cavity was prepared, and properly, I think, and she experienced, as she told me afterward, only a very little pain. I followed this to a certain extent, and the suggestions of Dr. Johnson, a man who many of you revere and love. I remember while in college there was some one who sent this question to him—we had the privilege of sending down questions—"What is the best obtundent for sensitive teeth?" Dr. Johnson contracted his brow as he usually did in answering some question of this kind, and he made his reply: "A sharp instrument in the hands of a skilful operator." No longer ago than last fall, at the meeting of the Northern Indiana Dental Society, our good friend Mr. Harter told us that one of the men who had one of the largest practices in his State, I believe, made that remark. At least, he was busy all the time, was a man who used sharp instruments, and was careful with his patients. He didn't use, as I remember

the statement, N_2O and O. He referred to his business as being big because his patients were not hurt very much.

A number of years ago—perhaps five or six—a young lady came to my office, and this case bears out my contention that much of the pain can be eliminated by mental suggestion. This young lady came in the office and wanted some fillings put in some teeth that were causing her pain. She had been hurt more or less by a dentist who several years before had done work for her. She was very nervous and anaemic, but I saw, in looking over her teeth, there was a great deal of work to be done—a few crowns to be made, many cavities to be prepared, and many fillings to be put in. I saw it would have to be done at once or she would lose her teeth. I just took half an hour and sat down and talked to her, and explained to her that she could have all those teeth taken care of without an excessive amount of pain. She would have some pain, of course, but not an excessive amount. To make a long story short, I filled every one of those teeth without any general anaesthetic. She was no different from any other patient. Of course, at each operation I told her just what I was going to do, and the probability as to whether there would be any pain or not. The young lady is still a patient of mine. The fillings, most of them, are in position; she has never had an extraction since that time, and she has been given a good service. Now, if this patient were to come into my office to-day, that service would be credited to N_2O and O, I feel quite sure.

As I said in the beginning, I want to compliment Dr. McKesson on his paper, because it brings out the scientific phase of the subject that has been very interesting to me. I thank you.

Dr. U. B. Shonts—If I may, I would like to ask what percentage of patients, as the years come and go, in cavity preperation can be taken care of in that way?

Dr. McKesson—In regard to Dr. Shonts' question, I don't know whether I can answer it or not. We will have to wait and see. It is too early, and we haven't the figures. I think I will call on Dr. Gillis to answer that question if he can.

Dr. Gillis—It is a hard question to answer, because you may still ask of so many cavities, what percentage do you fill with gold? what percentage do you fill with amalgam? The use of nitrous oxide and oxygen as an analgesic is something that must be determined by yourself as the patients come. I would not tell you every patient needs nitrous oxide and oxygen. I believe I have very few patients for whom I do not employ it. If a patient makes half a dozen visits to the office for work, I may use it but once or twice, but at those visits I will prepare enough cavities to keep me busy during the other appointments. There are many patients for whom you cannot prepare a cavity without it, after you have once used it.

I am not in accord with what Dr. Shidler said. I think there is more than fifty per cent. of us that need nitrous oxide to make up the deficiency Dr. Shidler has. I am mighty glad I have nitrous oxide. However, I don't want you to gain the impression that you will have 100 per cent. success. I know when Dr. Shidler got his machine, and I am sure he did not use it long enough to make a fair test. Nitrous oxide and oxygen is all right, and I firmly believe it is here to stay, unless there is something that comes along to take the place of it. There is no use of talking of being able, with the ordinary run of patients, to talk to them and by mental suggestion fill up the gap that would be vacant if you didn't have nitrous oxide to fill in. We have many patients who are nervous: it can be used for that; you don't have to use it entirely, because a few whiffs of it will give them a sort of indifferent feeling, and you can go ahead then and do many things. I believe seventy-five per cent. of the patients, after you get through, will speak of it as being pleasant. I will say three out of five—I am safe in that number. Don't expect to get the machine home and have 100 per cent. success. I am safe in saying Dr. McKesson or any one of us who has had experience will not claim 100 per cent. success. I will say, perhaps one time in ten you may fail in accomplishing what you wish. Of all the patients for whom I have worked, I know of only a few who are not willing to take it the second time. Just recently I had one young lady for whom I was preparing some cavities. She was in the hands of another dentist, and he had filled a lot of them, and a lot of them were left undone. The first time I gave her nitrous oxide and oxygen she was nervous. I had more than I could do to calm her fears. Her high-strung nervous condition plus nitrous oxide and oxygen resulted in a headache. The next time she came back she did not hesitate nearly as much as she did before. I said, "We will go ahead without it if you want to," and she said she wanted it. The third and fourth time she took it.

The first time you try it on a new patient, it is a pretty good proposition to give them a sample first before you do any work: let them find out what they are going to feel like, and then prepare some simple cavities first until they get acquainted with the feeling. Some say it feels like wooden teeth. Then you can go to work with more difficult cases.

But, in answer to Dr. Shonts' question—it is mighty hard to answer it with any precision at all. In past years, before we had analgesia, we went ahead and prepared cavities whether or no. We can't continue to do that and torture our patients when, by the use of nitrous oxide and oxygen, you can eliminate ninety per cent. of the torture. Don't tell your patients you are going to prepare cavities without them feeling it. There is a great deal of difference between pain and feeling a thing. I can touch Dr. Henshaw's head and he will feel it; I can pull his hair and it will hurt; I can put him under analgesia and it will not hurt, but he can feel it.

I am mighty glad I have been able to listen to the discussion

without somebody harping on the terrible past history of nitrous oxide. I was sitting here, as I did down at the State meeting, with a brick under my seat, and I was going to throw it at the first man that mentioned it. It is well for us to profit by the past experiences of nitrous oxide, but we don't need to bring it into our discussions now.

It seems to me that children are more easily handled than others—they haven't grown so far away from childhood's imaginative state. As we grow up we grow a little farther away from that. If we start in with children from nine to fourteen years old, you will find they are very susceptible patients. You can approach a boy or girl by talking to them about their childish play; talk to them about sliding down hill, or going in swimming or something else, and get their confidence by telling them a few facts. Describe the symptoms, as Dr. McKesson suggested. Tell them to expect a tingling of the fingers, a full feeling in the head, and possibly in the ears, a thumping in the ears, and the lips will feel thick, and warmth will come over the face or possibly the entire body. The voice, if they speak to you, will sound thick and far away. Often these symptoms will not appear in every case; in some patients they will. Ask them to snap their teeth together, and if they are normal they can snap their teeth; when in analgesia you can tell from the sound. It will sound like rubber between the teeth. Ask them if they feel like rows of wooden teeth in their mouth, and if they say they do, then you are ready to operate. Go slowly, and with a little mastered technique you will get there with the rest of us.

Dr. W. L. Meyer—I just want to say a word in defence of having Dr. Shidler on the discussion of this paper. Dr. Shidler and I meet every year at the Northern Indiana, and once in a while at the State meeting, and we have talked over analgesia; and I thought the Doctor would be a good man to put on this paper, because I knew he had an apparatus over in his office which I knew he didn't use or anything except anaesthesia. I have one in my office I use for analgesia. I thought Dr. Shidler would be the one you would want to hear discuss this paper. I told him he was on, and he knew it all the time. I don't use my machine as much as Dr. Gillis does, and I probably cannot use mental suggestion as well as Dr. Shidler. If I had those two accomplishments I would locate in Gary.

I am going to give you two of my cases—the worst and best patient. The best one was a hard patient to work for—one of those you don't like very well to see coming in the office. About a year ago I got the apparatus, and during the last three or four weeks she came in the office to make an appointment. She saw this apparatus there. She didn't know I had it, and asked me what it was. I told her, and she said she had read an article in the *Saturday Evening Post* about it, and was glad I had one. When she came for her first appointment, I gave her analgesia. She is the best patient I ever worked for in the first operation. She knew what

was coming to her. You didn't have to use mental suggestion. I prepared five or six cavities, and she said: "That is certainly a godsend to humanity." The other patient was a girl I have always had trouble working for. I thought this would be great for her. I gave her analgesia, and I absolutely could not work for her in the analgesic state. She would get hold of my hands, and I could not work at all. The only possible way I could work with her was in the state of anæsthesia. She would come up there and want it, but at the same time she would not give up. I could not work mental suggestion on her to have her relax enough for me to do that work. Simple cavities that I knew could be prepared without hurting her I could not do at all. When a patient comes in the office with her mind made up it is not going to hurt her, you can put your face-piece on her and work on her; and the other patient you absolutely could not work on unless you had her in the state of anæsthesia. I would not take a good deal for my gas apparatus. I thank you.

Dr. Shonts—I have seen this case that Dr. Meyer talks about, and I believe even the suavity of Dr. Shidler would not keep her quiet. I call to mind a similar case, only my patient happened to be a woman larger than I, that could get her arm around and take hold of the operator. What percentage of these cases in which you need it will you not get the results?

Dr. Le Galley—That is a pretty hard thing to answer. When I get hold of a case of this kind, I just carry him under complete anæsthesia and do the work under complete anæsthesia.

Dr. Shonts—I have seen nitrous oxide used for a period of about eighteen years, and find that sometimes it doesn't work under complete anæsthesia.

Dr. McKesson—In regard to the very last statement that it doesn't work in anæsthesia, it is up to the technique. There is not any patient that cannot be anæsthetized with nitrous oxide and oxygen if you go into the technique properly.

Dr. Shonts—And get absolute muscular relaxation?

Dr. McKesson—Yes.

Dr. Shaffer—What have you reference to in your paper about that twenty per cent. in connection with the administration of ether or chloroform? Formerly they gave nitrous oxide with chloroform—they were mixed; you can get complete anæsthesia under that.

Dr. McKesson (closing)—You can get it without that. If you have a case that is a bad one, anæsthetize the patient. If you know he is going to be a hard one to get under, being a big, muscular fellow or an alcoholic type, before you commence give him a tablet

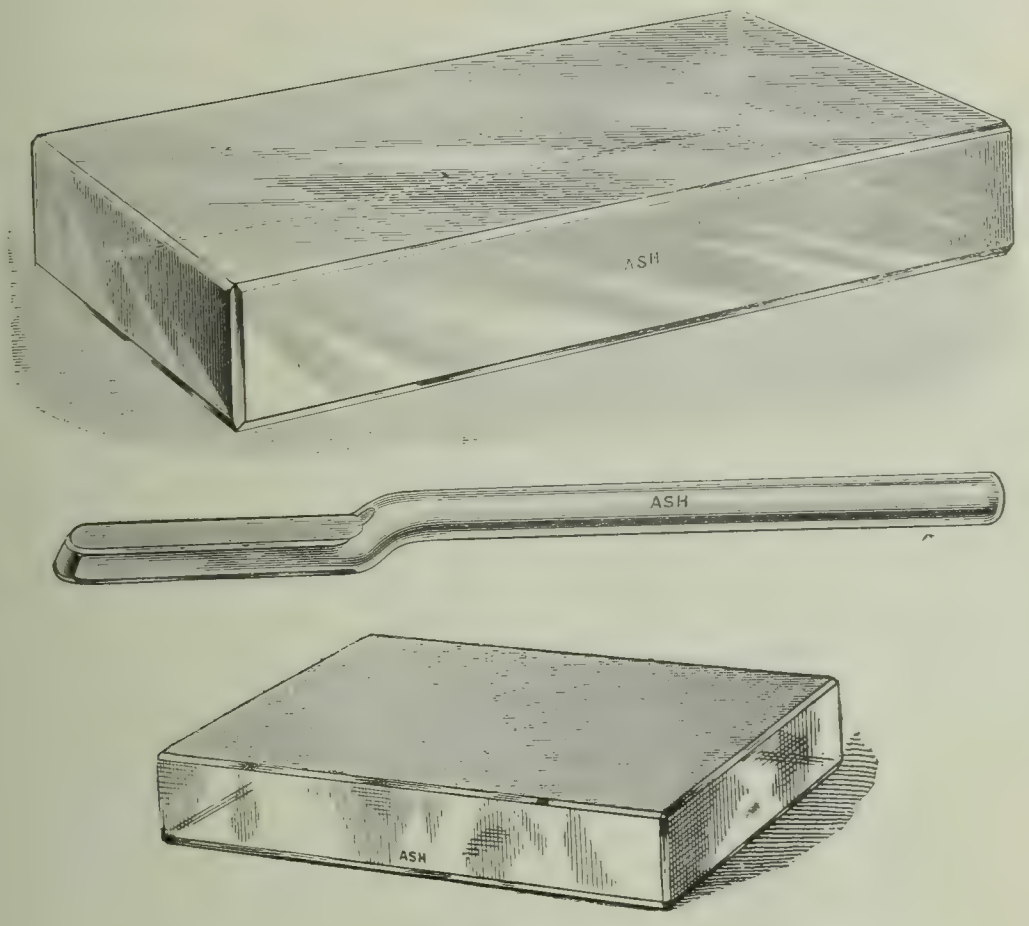
of morphine an hour before and let him wait; he will come in and take it like a baby. It is a matter of knowing what to do and how to do it. We are not limiting ourselves to nitrous oxide. If we are going to dig a hole in the street, we don't use a pick all the way down; we use the tools and means that serve our end. So, if morphine is indicated in a particular patient, give it to him.

Another thing, in surgical operations, the site of the incision where the hands go in and go out is a cause of irritation. The nerves running to the central nervous system are being stimulated every time the surgeon's hand goes in and out. What is the latest thing? what is the thing we are doing to prevent it? We are using a local anæsthetic to block these impulses. Even if the patient be asleep, the impulses reach the central nervous system; even if we have no external muscular manifestation that these impulses are reaching the central nervous system, we know they do, because the patient suffers shock after a certain length of time. That is under the study of technique. Use everything that will help you—a local anæsthetic, suggestion, morphine, or anything that will help you.

In regard to the sense of pain—the elimination of the sense of pain. I don't think I made that statement. The first special sense to surrender is the sense of pain, leaving the other special senses less influenced. Now, they are influenced. For instance, deep analgesia is the very next thing to the anæsthesia stage. If you were looking at a door, as I was in my second experience, the panels would be blurred, the vision disturbed. You don't know just exactly whether you are sitting or standing. That is where you are getting right close to anæsthesia. So, the other senses are disturbed before you get a complete loss of pain. Complete loss of pain comes in anæsthesia only, but the fortunate thing is that the superficial pain is obtunded before we lose our mental consciousness. I think that is about all, unless somebody has another question. I thank you.

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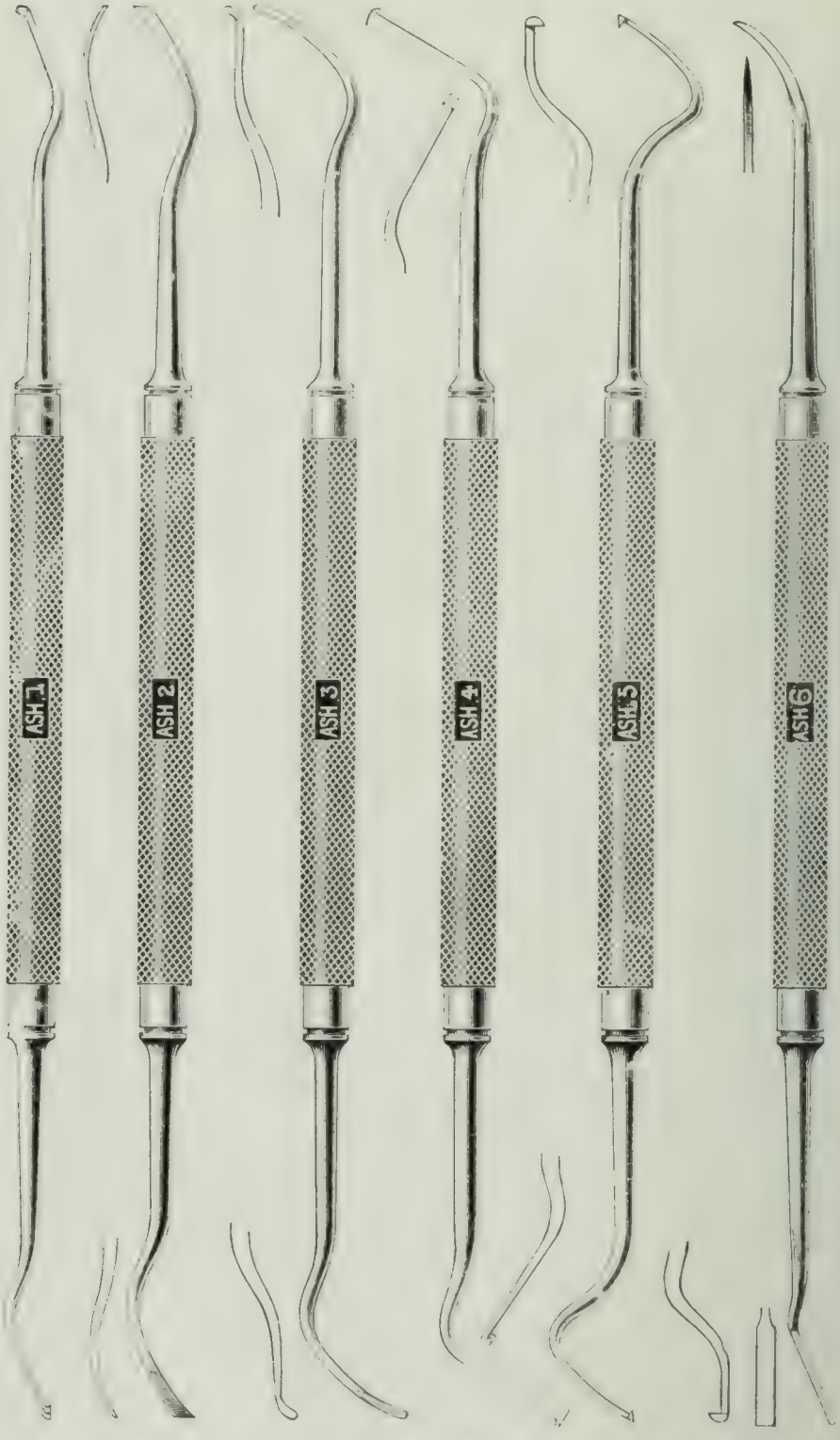
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No. 3 is a useful all-round Mixing Block.

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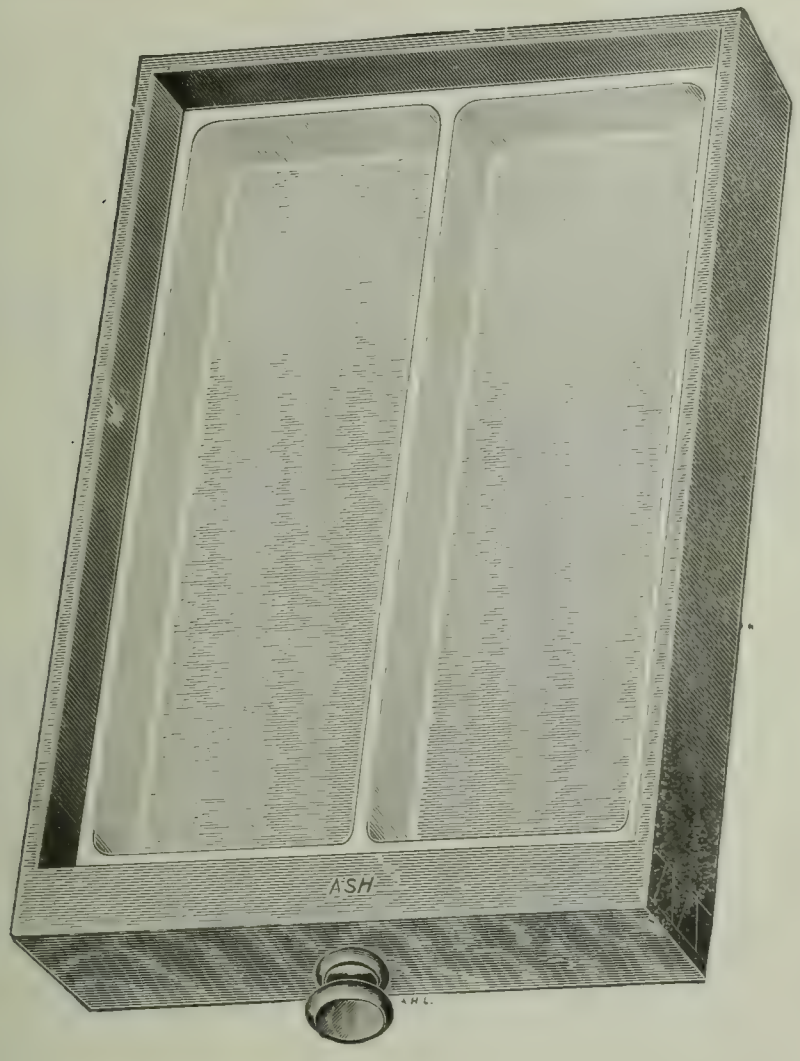
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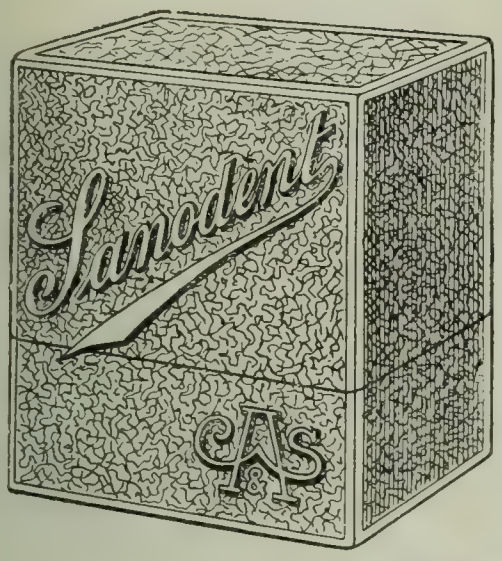


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We carry a good assortment of these labelled for the most popular drugs, but we will have any labels burned to your order.

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(Registered)

A Superior Root Dressing

FROM THE FORMULA OF

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Sanodent has been regularly used and well tested for nearly four years with the most satisfactory results, hence it is offered to the Profession as a Thoroughly Reliable Preparation

DIRECTIONS FOR USE

As a Dressing for Septic or Abscessed Teeth.—Thoroughly clean out the contents of the Pulp Chamber and Root Canals in the usual manner. Mix the Sanodent Powder and Liquid to the consistency of thick cream and apply on Cotton Wool to the Root Canals and Pulp Chamber. Repeat these dressings until the tooth is perfectly "sweet." Then permanently fill the Canals with either Asbestos Fibre, Gutta Percha Points, or Cotton-Wool covered with Sanodent mixed to a fairly thick paste.

In very septic teeth, which at the time of treatment are not abscessed, it is advisable at the first to clear out the contents of the Pulp Chamber only, apply a dressing of Sanodent, and leave the treatment of the Canals until a subsequent visit, when their contents will be far less septic.

Some Other Uses.—In those cases in which for some reason or other (*e.g.*, Tortuous Canals), it is impossible to clear out the Canals thoroughly, cover the orifices of these Canals with Sanodent mixed to a paste, and carried to place on Asbestos Fibre or Cotton Wool. Any remaining Pulp will be preserved in an antiseptic condition.

As a "Mummifying" agent, those who practice "Mummification of the Pulp" will find Sanodent excellent. Subsequent to devitalising and removing the coronal portion of the Pulp, apply Sanodent, mixed to a paste, on either Asbestos Fibre or Cotton Wool.

After the application of Arsenic, a dressing of Sanodent left on for a day, prior to attempting the removal of the Pulp, will render the pulp tough and thus admit of its being much more easily removed whole from the Canals.

Sanodent is very useful as a permanent Root-Canal Filling when it is mixed to a paste and used in conjunction with Asbestos Fibre, Gutta Percha Points, or Cotton-Wool.

N.B.—Do not force Sanodent through Apical Foramina, and do not seal it in contract with living tissue, either pulp or gum. Sanodent is not intended to replace proper Root Treatment, but to aid it.

Sanodent is supplied in stoppered bottles. The bottles should be kept well closed when they are not in use. After exposure to light and air the liquid becomes somewhat darker in color than as supplied, but this is no detriment to it, and in no way affects its efficacy.

Sanodent Powder and Liquid in Packets, per packet..... $1.25

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STOVAINE has a wide range of application, and is being very extensively used by surgeons and dentists all over Europe and in the United States and Canada with the greatest success and satisfaction.

The most convenient and popular form in which Stovaine is put up is a 1 per cent. Solution in Oil of Eucalyptus, Oil of Wintergreen, Boric Acid, Glycerine, Tincture of Rosemary, Thymol, Oil of Peppermint, Benzoic Acid, Carolic Acid .05 per cent., and Alcohol.

Price, in 2-oz. bottles.....per bottle $1.25

NOTE.—To obtain the best results with Stovaine, it is necessary TO KEEP STRICTLY TO THE TIME recommended by the manufacturers, viz., TWO minutes after injection. When the Operator has finished injecting, he should look at his watch, and as soon as TWO MINUTES have elapsed he should at once proceed with the extraction of the tooth or teeth.

Claudius Ash, Sons & Co., Limited

Ash's Globe Copper Amalgam

(From the formula of Profs. W. D. Miller and Jung.)

Alloyed with 2½ per cent. of Tin. Recommended for colour, setting properties, and hardness.

This amalgam of Copper and Tin is the outcome of many experiments on the part of the above-mentioned eminent Professors Miller and Jung.

Price.....per oz.	$1.00
In 6-oz. lots.....per lot	5.00

At the time of its introduction Professor Miller in an exhaustive paper describing the experiments (Cor. Blatt., Apr., '94), said that the addition of tin in these proportions, viz., 2½ to 3%, was clearly proved to have the effect of lessening the chemical dissolution of the copper in the fluids of the mouth. Further, that it favourably affected the colour of the fillings, which remained grey in contrast to the black of the copper amalgams without tin. Extensive experiments for detection of shrinkage were carried out, and we have evidence from Germany, where it has been largely used since 1893, to show that in actual practice the conclusions drawn from the experiments as to its value as a filling material have been confirmed.

DIRECTIONS FOR USE.

Heat the Amalgam in a ladle until beads of mercury ooze out, crush it thoroughly in a mortar, knead well together in the hands, and use at once.

TRIKRESOL-FORMALIN

SOLUTION AND PASTE

(Dr. J. P. Buckley's Formula.)

DIRECTIONS FOR USE.

1.—In Teeth with Gangrenous Pulps, open up the cavity and clear out the canal or canals. Soak one or more cotton pellets in the Trikresol-Formalin Solution, insert in the canal or canals, and securely seal the cavity with Fletcher's Artificial Dentine to make it perfectly air-tight.

After one or two days remove the cotton pellets, wash out the canal or canals and cavity with a 3 per cent. solution of Carbolic Acid, and then thoroughly clean and dry out.

Now flow a drop of the Trikresol-Formalin Solution in the canal, or in each canal if more than one, fill the canal or canals with Trikresol-Formalin Paste, and proceed with and complete the permanent filling.

2.—Trouble subsequent to Root Treatment. When inflammation with swelling and pain develops in teeth, the roots of which have been long previously treated, and trephining has to be resorted to, they should be left open under Trikresol-Formalin Dressings for a few days; the treatment described above, under No. 1, can then be completed in two sittings.

3.—Pulp Amputation and Nerve Extraction. In cases of pulp amputation and nerve extraction insert in the canal a cotton pellet soaked in Trikresol-Formalin Solution, seal air-tight with Fletcher's Artificial Dentine, leave for a few days, then remove, flow a drop of Trikresol-Formalin Solution in the canal, fill it up with Trikresol-Formalin Paste, and insert the permanent filling upon it.

4.—Gangerous Pulp and Fistula. Should a gangerous pulp be accompanied with a fistula, Dr. Buckley opens the fistula, drains off the pus, inserts cotton pellets soaked in Trikresol-Formalin Solution and seals perfectly air-tight with Fletcher's Artificial Dentine. If necessary the treatment is repeated several times. The final stages of the work are carried out as described above under No. 1.

The most successful results are obtained when the above directions are faithfully followed.

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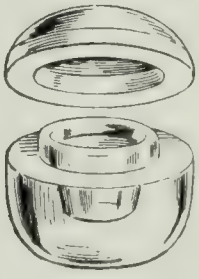
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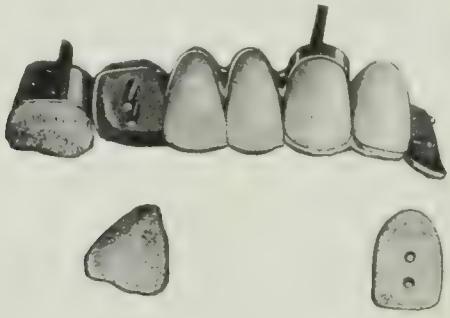
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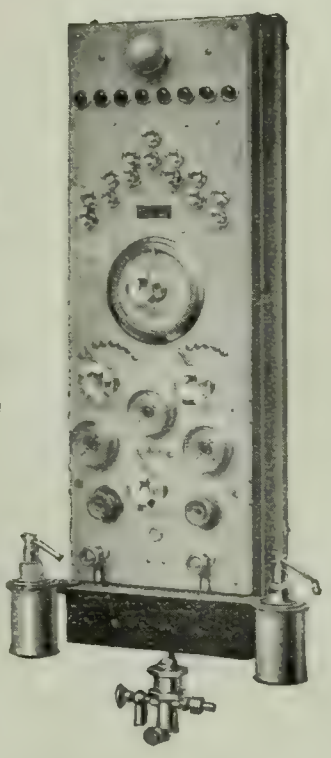
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Cabinet complete with above outfit	**$27.75**

The demand for this Cabinet is so great that we believe that soon every Synthetic user will have one.

There is a place for everything, and it invites neatness and precision. When a Synthetic operation is begun the Cabinet is brought out. It is a handsome piece of furniture, and makes the proper impression on the patient. When the operation is concluded, everything is cleaned and put back, ready for the next patient.

OPTIONS.

You may select the shades of powder you choose, or leave the selection to us. But in all cases the order must be for not less than 10 half portions.

You may substitute tantalum instruments for the ivory instruments at the regular prices for tantalum. Or you may substitute for the instruments and shade guide, if you already have them, additional Synthetic Powders and Liquids.

THE L. D. CAULK COMPANY

Laboratories, Milford, Delaware.

Canadian Branch—70 Bond St - TORONTO

THE MEASURE OF VALUE

demanded in a dependable

Orai Prophylactic is exactly provided in Pyorrhocide

BECAUSE Pyorrhocide removes daily deposits of salivary calculus that contribute to the formation of tartar, the breeding place of the bacteria of caries.

BECAUSE Pyorrhocide naturally stimulates blood circulation in the gum tissues—strengthens—revitalizes those tissues to more effective resistance to germ infection and multiplication.

BECAUSE Pyorrhocide neutralizes offensive breathfetor and promotes the antisepsis desirable in operating.

BECAUSE Pyorrhocide, by preserving in health the tissues surrounding the roots, insures permanent abutments for restorations.

BECAUSE Pyorrhocide, from its original, scientific combination of constituents, is a vitally important part of the consistently successful Dentinol and Pyorrhocide Method of preventing and treating pyorrhea.

BECAUSE Pyorrhocide is economical to the patient, a $1.00 can outlasting the quantity of ordinary pastes and powders obtainable for the same amount.

BECAUSE Pyorrhocide produces results that insure satisfied, appreciative patients, and, therefore, a constantly increasing clientele and enhanced professional reputation.

Pyorrhocide may be prescribed through druggists, and can be procured by dentists at quantity rates through dental supply houses.

"The Practical Method of Successfully Treating Pyorrhea" has been mailed to every dentist in the United States and Canada. If you have not received a copy of this original, interesting booklet, it is yours for the asking. Let us also send you, free of charge, "Pyorrhea, Its Causes, Effects, Treatment and Prevention," scientifically exact and invaluable for the detailed information it supplies on the subject.

The Dentinol & Pyorrhocide Co.

World's Tower Building

110-112 West 40th Street **New York**



One of the Many Advantages Obtained by Selecting for your Vulcanite Cases

JUSTI

True-to-Nature Teeth

ANTERIORS and POSTERIORS

Notice the WORN EFFECT of the LOWER BUCCAL CUSP, as shown in the above cut.

You have probably ground THOUSANDS of these cusps,

THAT IS WHY WE SAY THAT **TRUE-TO-NATURE TEETH** are *absolutely correct* from a *Mechanical standpoint.*

Insist that your DEALER Supply YOU THESE TEETH

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THIS ADVERTISEMENT

was written with only one object in view, *i.e.*—to impress upon your mind the advisability of giving

Fellowship Alloy

a trial. By doing so you will benefit both yourself and the writer. Yourself most, as you will get an alloy which will give you absolute satisfaction and forever do away with the troublesome worries which come from the use of an inferior product.

LEARN TO SAY FELLOWSHIP

Manufactured by

Dental Protective Supply Co.

Sold by all Dental Dealers

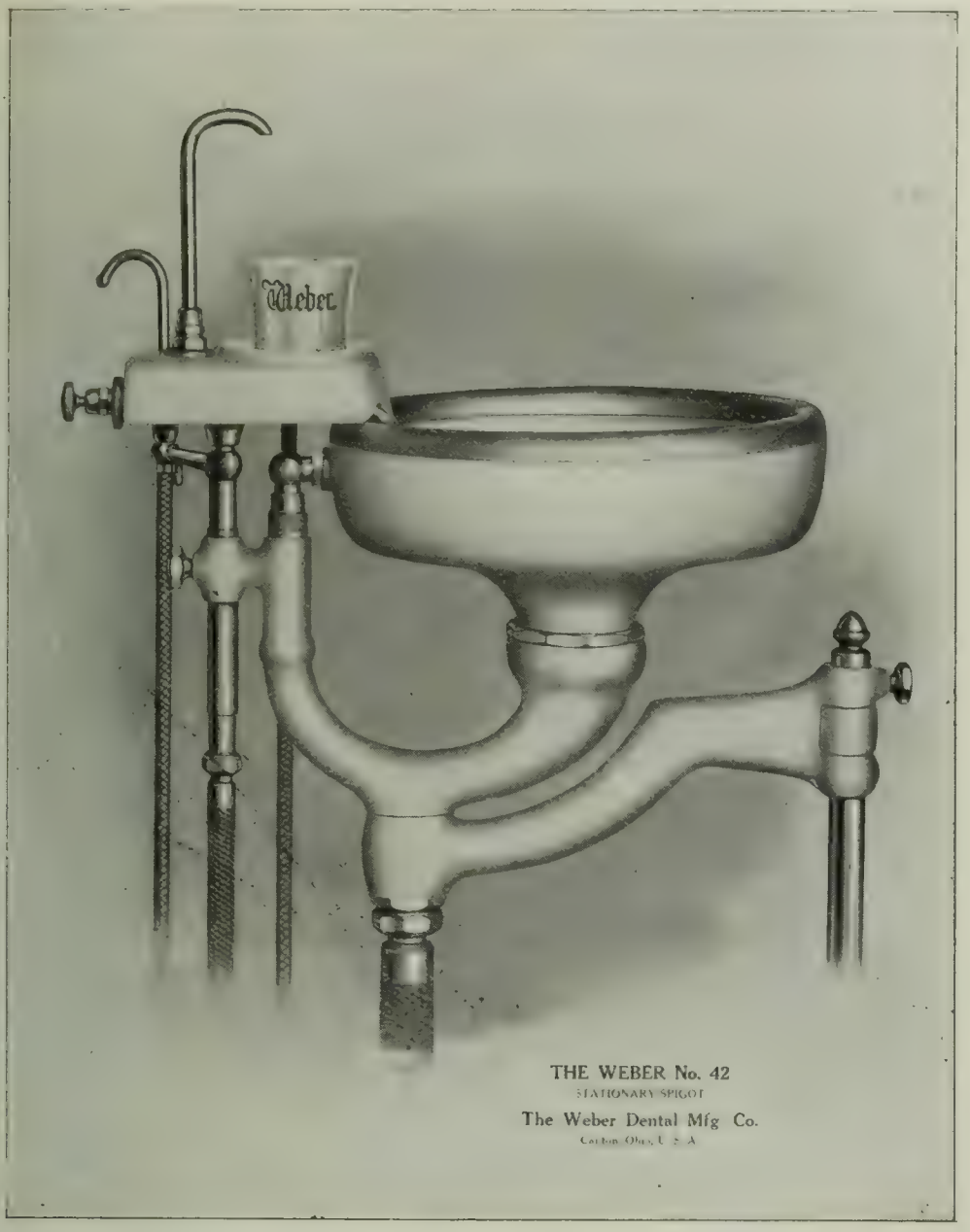
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Send me free sample of FELLOWSHIP ALLOY

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The Weber New Model No. 42--$42

Pearl Opal Glass Valve Shield and drip cup combined. New patented feature. Also Saliva Ejector holder.

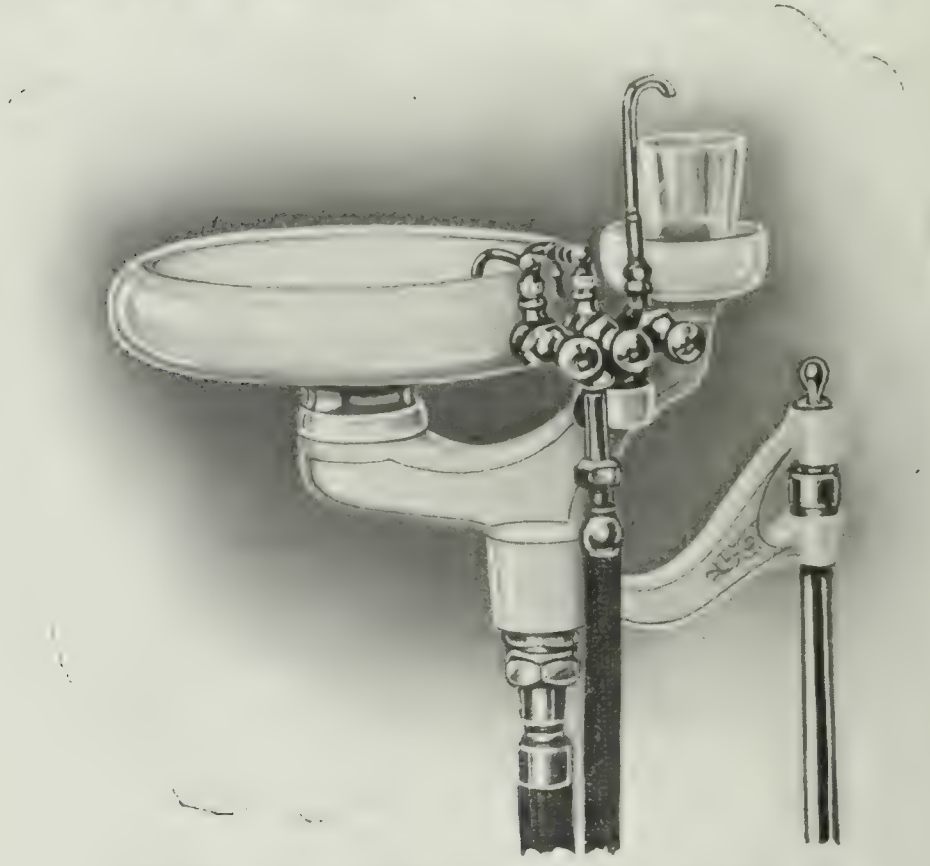
Write for liberal Exchange Offer.

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CANTON, OHIO, U.S.A.

The World's Largest Manufacturers of Fountain Cuspidors.

FOUNTAIN OF YOUTH



NEW CLARK $40.00 SINGLE

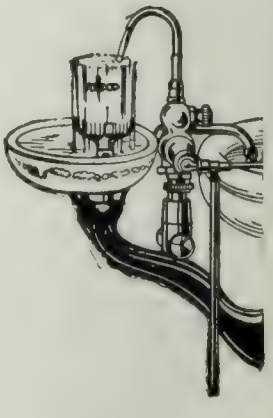
YOUTH manifests itself in the freshness, color, strength, durability, and symetry of this new Fountain Spittoon

AGE shows only in the skill, workmanship and design, resulting from our many years experience.

Whether you are Young or Old, this spittoon will Brighten your days.

A DOZEN NEW FEATURES

CLARK Fountain Spittoons with Finger Bowl Attachment are used by Dentists who want their patients to have a hygienic receptacle for their plates and a sanitary dip for their patients' fingers.



A. C. CLARK & CO.

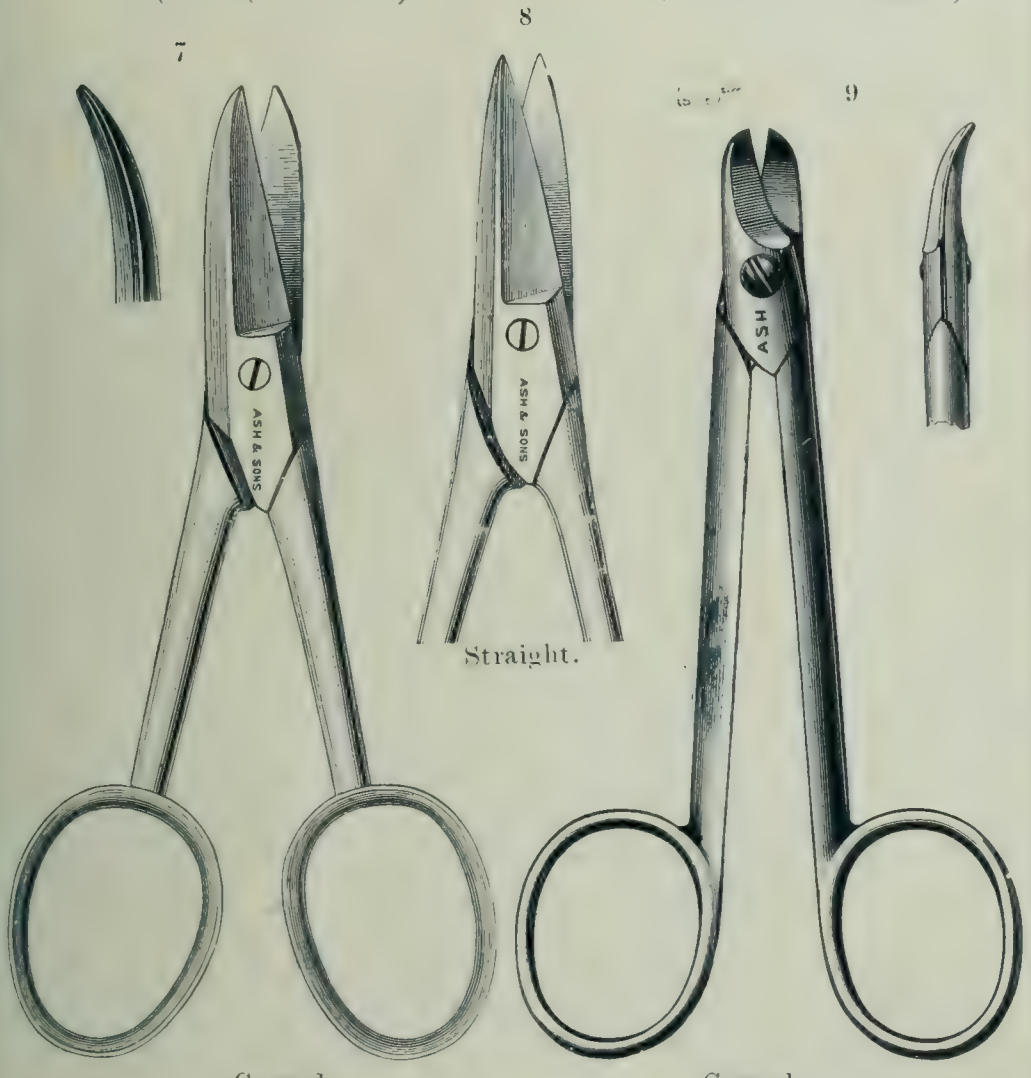
Grand Crossing **Chicago**

Improved Plate Scissors

(Mr. Girdwood's)

Crown and Collar Scissors

(Dr. J. H. Beebee's)



Straight.

Curved

Curved

Full size.

Specially adapted for the use of Crown and Bridge Workers.

Improved Plate Scissors (Mr. Girdwood's).—These Scissors are more easily handled than small shears, and allow of sharp curves and angles to be readily cut, and Mr. Girdwood finds them strong enough for crown gold, etc.

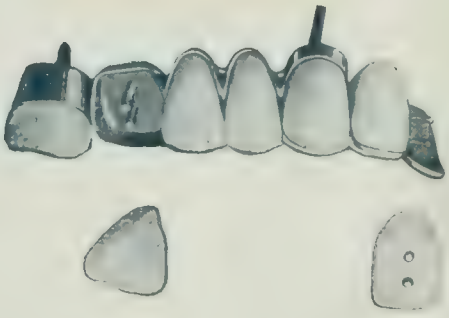
Fig. 7. Curved Scissors, Nickel-plated.....each $1.25
Fig. 8. Straight Scissors, Nickel-plated.....each .80

Crown and Collar Scissors (Dr. J. H. Beebee's).—Most useful for cutting and trimming gold collars and crowns.

Fig. 9. Curved Scissors, Nickel-plated.....each $1.10

CLAUDIUS ASH, SONS & CO., Limited
TORONTO

Dimelow Detachable Facings



Will give **You** better results than any other detachable teeth.

WHY ?

Because of their **Greater Strength** as you can tip them **Heavily** with gold and still remove them before soldering.

The more conservative bridge workers who have stood aloof from replacable teeth are to-day using **Dimelow's** with security to their reputations and at greatly reduced cost.

If you have not received a booklet a request post card will bring you one.

Claudius Ash, Sons & Co., Ltd.

SOLE AGENTS

VOL. 5 No. 2

ASH'S CANADIAN MONTHLY CIRCULAR

ISSUED FROM TORONTO ON THE FIRST OF EACH MONTH

CLAUDIUS ASH, SONS & CO. LIMITED.
CANADIAN BRANCH,
11-13 GRENVILLE ST. TORONTO, CANADA.
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Ash's Repair Facings

Made in the patterns shown in booklet which can be had on application, and supplied in sets of 6, sets of 4, pairs and odd.

The three sizes here illustrated are intended to show the distinctive feature to which we wish to draw attention, viz., the oval cavity in the back of each.

They can be used for repairing nearly every kind of denture; they are easily applied, exceedingly durable, and can be quickly fitted—it does not take longer than from 10 to 15 minutes to fit one.



83



71



14

They are invaluable for repairs to Bridges, and in all cases of Plate and Crown work in which a flat tooth has to be replaced.

The oval cavity at the back of each Facing corresponds with the positions of pins in our Flat Pin Teeth. The Facings do not require backing, but can be applied to the backings of fractured or broken teeth when the broken portions of mineral have been removed from the backings.

IMPORTANT NOTE.

For attaching these Repair Facings to teeth backings, etc., we recommend our **C.A.S. Cement**, or our **Inlay and Crown Cement.**

PRICE, EACH 18 CENTS

Claudius Ash, Sons & Co., Limited

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AUGUST, 1914

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A Typical Canadian Soldier

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Puscure. What is it ?



It is an Abscess Cure and Root Canal Filling. It cures an abscess for all time. No sore teeth, no come-backs in trouble, no work to do over.

How does it do the work ? Puscure is about twenty times as strong as carbolic acid, is non-poisonous, non-coagulant, non-irritant.

The Secret

Puscure is hygroscopic and its great affinity for alkaline fluids causes it to mix instantly and chemically unite with the fluids in the canal, but more important is, it mixes with the fluids in the *Tubuli*—do you get this remarkable point ? It is the only remedy known to Dentistry that will sterilize the contents of the tubuli. No other known remedy does or can mix with the fluids in the tubuli. If you have never used Puscure, one box will convince you that all the claims made for it are absolutely true—one box will prove it. Puscure is used by dentists in every country in the world and demand increasing. It has not been advertised, then why this constantly increasing demand ? Merit of superior quality. One dentist tells another, that is the story of Puscure.

Price in Canada - $1.75

THE PUSCURE CO.

LOUISVILLE KY.

SOLE AGENTS IN CANADA

Claudius Ash, Sons & Co., Limited

Ash's Canadian Monthly Circular

VOL. V. TORONTO, AUGUST 1, 1914 No. 2

HINTS AND ITEMS OF INTEREST.

Finishing Wax Impressions in Inlay Work.—After the wax is inserted and has been partly carved to conform to the outline of the cavity, a very fine sandpaper strip is very carefully run over the contoured surface of the wax; this will leave a much smoother surface than can be obtained in any other way, and at the same time will accurately burnish the wax to the margins of the cavity. Care should be taken not to supply much pressure to the strip.—Leon C. Paterson, in Dental Cosmos.

Articulating Paste.—A very convenient and useful means for ascertaining the points of contact in setting porcelain inlays and articulating artificial dentures by the anatomical method may be supplied by mixing ivory black and glycerine to a thick paste. The opposing surfaces are wiped dry, and a small quantity of the paste is painted on the occluding tooth. On closing the mouth, the point of contact will be plainly marked.—D. W. Barker, in Dental Digest.

To Avoid Excess of Water in Investments for Cast Inlays.—We read much about accuracy in mixing investments for cast inlays. Instruments are on the market for weighing and measuring the water and investment used, but it is impossible to get a mix that will pour without an excess of water. Weigh a fresh plaster cast or investment cast of combined materials, dry, and weigh again—the difference is the excess of water not required to satisfy crystallisation in the plaster. Some excess is, of course, necessary in any method. Now, how shall we reduce the water to the minimum?

First select a flask deep enough to allow the wax model to be well below the top of the flask, and sift the investment into the water, pouring off the excess. Take care of your model with a camel's-hair brush, pour the investment until the model is well covered, and the investment within about one-quarter of an inch of the top, and sift in dry investment until it rises in a cone above the flask. Then wait a few minutes until the water rises

from the saturated investment below, and press the cone gently down; repeat the process if necessary, using care and judgment in the pressure and amount of dry material used, and you will soon learn to make an almost perfect investment so far as the right proportion of water is concerned. Don't give up if you happen to make one too dry and rob the lower portion of water.

By this method you can place your flask safely on a pretty hot surface in five minutes, and in ten minutes transfer it to the gas flame.—Geo. E. Smith, in Dental Cosmos.

Articulating Artificial Teeth.—After an upper and lower set of teeth has been articulated and fitted to the mouth, any little prominent points upon the cusps will more or less destroy the usefulness of the case, since they will cause a slight displacement of the lower denture during the movement of the mandible.

In order to obtain perfect contact at every point, the teeth should be ground with carborundum crystals mixed with a little oil or glycerine. To do the work successfully paint the surfaces of the teeth with the paste, and work them together laterally while in position upon the articulator. The resulting smoothness gives to the patient a freedom of action which can be secured in no other way.—Claudius Ash, Sons & Co., Ltd.

Arsenical Discs.—To obtain the best results in devitalizing a pulp with an arsenical disc, apply a small quantity of oil of cloves to the prepared surface of the disc before placing it in the cavity.—W. F. Flote.

Bar Lowers.—Many of us prefer to try in bar lowers finally with the crowns in situ. A goodly number of such lowers have ridges of a knifelike sharpness and the plaster gets damaged. To avoid such damage, take a piece of paper, of the variety which grocers call grease-proof, and carefully fix it on the model with glucine or some similar mucilage, being particular to prevent creases. This little device will save the worker much trouble, and the cloth need not be removed during the packing of the case.—H. R. Lipscomb, Newhaven.

Repairing Bridge Work with Ash's Facings.—Cut off the pin or pins left standing and make both flush and smooth with the backing. Then drill a small hole between the two pins, and tap it with a suitable tap. Into this threaded hole screw a small gold stud which is supplied for the purpose. Over this stud cement an Ash's Facing, and keep it under pressure during the crystallization of the cement. Such a facing is stronger than the tooth which it replaces.—Claudius Ash, Sons & Co., Ltd.

Avoiding Air-Spaces in Pouring Impressions.—To prevent air-spaces in pouring impressions, a medium-sized, rather coarse

paint-brush should be used, and the plaster painted on the impression, as in inlay work. After use, the brush is immediately immersed in water and a few shakes will leave it ready for the next use.—W. I. Prime, Dental Digest.

Lanolin for the Hands.—Lanolin is an excellent emollient for the hands. Its occasional use will keep the skin smooth and supple; for this purpose it is better than glycerin. Glycerin tends to draw the moisture from the skin, and at times it is irritating, while lanolin is soothing and healing. If scented with a delicate perfume and well rubbed into the skin after washing, it will keep the hands in good order. It is not at all expensive, and a little goes a long way. It is especially useful when the hands become chapped, and as a soothing application to the skin-cracks so annoying to some during frosty weather.—J. H. Grumm, Dental Brief.

Cleaning Rubber Files.—Files used in the laboratory for finishing vulcanite work soon become clogged by the rubber wedging in the depressions between the teeth. Pouring chloroform over the file causes this rubber to curl up and loosen, so that it can be readily removed by any kind of a brush, thereby making the file cut like a new one.—Dr. W. H. Craft, Dental Brief.

Replacing a Lateral Tooth by Bridge Work.—The palatal side of the canine is trimmed just sufficiently to level the surface, and a slight space is left between it and the occluding teeth. Three holes, No. 20 gauge, are then drilled directly in the line of the root. The holes at the approximal sides are to occupy that section of the tooth structure—such as is generally included in cases of approximal caries—which does not expose the pulp. At the cervical palatal section, the hole can be only a shallow one. The angle at which these pins are placed in the tooth structure should be such that the line of pressure in use will prevent their displacement. A little plate of platinum, 38 gauge, is swaged and fitted, and the pins are then soldered in position with pure gold. The plate is again fitted, the edges are trimmed to the proper size and shape, and a little more pure gold is flowed over the entire surface. Next the plate is again fitted, the porcelain tooth properly adjusted, removed with the plate and connected with solder, some of which is flowed over the plate to additionally strengthen it. A spur may be allowed to rest on the central.—G. Evans, Items of Interest.

Easy Method of Repairing Defects in Gold Crowns and Bridge Work.—Mercury and filling gold are mixed in the same way as amalgam. The mixture is packed over the hole in the crown or the defect in bridge work to be repaired. With sol-

dering pliers the crown is held high over the gas flame so as to heat very slowly. As the mass reaches 350° C. the mercury volatilizes, leaving the pure gold covering the hole or filling the defect. This gold is burnished to a smooth surface, and the operation is complete.—C. O. Dobson, Dental Summary.

Method of Strengthening Partial Plates.—We often have trouble from the breaking of partial plates. Leaving the outer rim off weakens the piece, and wires and bars recommended by supply houses for this purpose are usually of very little use, for the reason that rubber does not adhere to the metal. Victoria metal seems to fill a long-felt want for this work, and strengthens the denture very much, because the rubber passing through holes countersunk on the lingual side forms rivets, thereby adding great strength to the denture and allowing it to be made of a minimum thickness.—L. G. Beerbower, Dental Summary.

Cast Gold Inlays.—Great difficulty is sometimes experienced in removing the wax form from the cavity without distortion. The following simple method will be found to overcome all difficulties in this respect.

A small 22-carat gold disc is made, about ⅛ inch in circumference, with a tiny hole in the centre, large enough to admit a piece of cotton. A knot is made at one end of the cotton and the free end is threaded through the hole in the disc. The disc is then dipped into molten wax several times, until it is about the size of a pea, whereupon it is pressed into the cavity and contoured. Over the free end of the cotton a piece of metal tubing—a broken hypodermic needle serves very well—is slid down until it rests upon the wax inlay, to which it is tacked with a little sticky wax (Ash's Model Cement). After being chilled the wax inlay can easily be withdrawn from the cavity without injury.

In the heating-up process the wax, of course, disappears as usual, but the disc is retained in the mould in the investment and forms part of the gold inlay when the gold is cast.—S. A. Coxon.

Method of Avoiding the Cement Line in Porcelain Inlays.—After preparing the cavity according to accepted principles, the gold or platinum foil is burnished and filled with Harvard cement while in the cavity. A metal wire, which is allowed to protrude sufficiently to allow of easy manipulation, is embedded in this cement filling, which, after it has set, is withdrawn together with the matrix, which will be found to adhere firmly to the cement. Over this first matrix, a second one of the same gauge is carefully burnished and pressed so as to ensure absolute contact between the two. The second matrix is then withdrawn, and in it the porcelain inlay is baked. In this manner the thickness of

the matrix is entirely eliminated, and such an accurate fit of the inlay is obtained as to leave no visible cement line.—La Province Dentaire.

Antagonizing Model of Metal for Setting-up Teeth.—In setting-up the teeth for an upper or lower denture, it is practical to pour a model of the antagonizing jaw in Spence or Melotte metal. Such models are more durable, and are not worn or broken in articulating the teeth to them, thus ensuring an accurately articulating plate that requires no grinding or resetting of teeth. —Oesterreichische Zeitschrift für Stomatologie.

Malignant Disease of the Tongue and Mouth.—Robert Abbe says that sarcoma of the round or spindle-cell type is apparently congenital in origin, though long latent, and may best be cut out. Carcinoma, on the other hand, is always the result of irritation, either by a tooth, a dental plate, tartar, a pipe-stem, or tobacco. Tobacco seems to be the most frequent offender, for advanced cancer of the mouth is extremely rare except in one who has been an excessive smoker or who has chewed tobacco. It is usually after twenty or thirty years that the beginning of an epithelioma shows, and insidiously advances. It usually starts either at the contact points of the pipe or streams of hot smoke on the tongue, or in the folds where the nicotin lies in the mouth, or where the quid rests between cheek and gum. The practical lesson is that, when the first spot of leucoplakia appears, it is wiser to cease the use of tobacco at once and for ever. When the inside of the cheek is extensively invaded by carcinoma, it may still be cured by exercising a part of the cheek, but half of the lower jaw must be exercised to permit free play in eating and to obtain sufficient sound tissue to close the defect. The writer concludes that thorough surgery is the supreme reliance in malignant disease of the mouth, and early operation the patient's chief hope of cure. Radium has its uses, but in advanced cases of cancer its good effect is transient; in giant-cell sarcoma and in leucoplakia, however, it is a specific.—Med. Record, per N. Y. Med. Journal.

Maligannt Disease of the Mouth and Pharynx.—Trotter holds that more mistakes are made in the direction of pronouncing tumours inoperable than in attempting operations which cannot be completed. The reason for this, he believes, is that in advanced gland cases of malignant disease of the mouth and pharynx, the principal mass is usually under the upper end of the sternomastoid and fixed to it near its insertion. This gives the erroneous impression that the growth is fixed to the spine. Glands beneath the muscle are also likely to appear ill-defined and diffuse, when they are in fact not so. When glands not under the muscle are indefinite and accompanied by brawniness of the

skin and oedema, it is generally quite useless to operate. Trotter regards it as being very remarkable how the common and internal carotids and the vagus escape involvement in gland masses until very late. Such masses tend to spread backward and involve the muscles on the noor of the posterior triangle long before they attack the common carotid. When the common carotid and vagus are involved, it is doubtful whether the operation should be carried out, and much would depend on the kind of primary growth and the condition of the patient. Removal of these two structures is a serious addition to the danger of the operation in itself, but it implies such extensive disease that cure is practically impossible. The limits of operability, then, lie less in technical difficulties than in the uselessness of the operation.—Lancet, per Journ. Amer. Med. Association.

PREHISTORIC MAN.

Discovery in the Wilds of Africa—Skeleton 150,000 Years Old.

Dr. Hans Reck, of the Geological Institute of Berlin University, has discovered at Oldoway, in the north of German East Africa, a human skeleton which, for the anthropologist, seems to be of the first importance. He lectured upon the subject in Berlin recently. He brought the skull home with him among his linen for greater safety, while the rest of the skeleton and the animal remains found near it are still upon their way. The remains were found with mammoth fossils, of which one is a tooth 3.18 m. (10 ft. 5 in.) long, and when these are compared with the fossils at Berlin it will be possible to determine the man's age.

At present all Dr. Reck can say is that the man is roughly 150,000 years old, and belongs to the diluvial period of Africa, which sychronizes with the ice period of northern Europe.

It is a wonderful skull and wonderfully preserved. It is long and narrow, with an unmistakably negroid jaw, and the back of the head finely developed and deep. The ribs and breast are akin to those of an ape, but the skull is unmistakably human. There are indications that the muscles of the neck were enormously strong, and that the man did not walk upright. His 36 teeth are complete and beautifully preserved. There are marks upon them as if they had been filed. The formation of the eye sockets and the bridge of the nose is akin to that of the primitive African Bushman.

The man was found lying on his back, with his head turned over to the right, his hands before his face, and his legs drawn

up in a crouching position. Dr. Reck is almost certain that the position is not one of burial. On the spot where the man was found there was once a lake, and it is conjectured that the man was drowned. The body was gradually covered with deposits of sand and chalk, which in the course of centuries turned into the volcanic tufa in which the skeleton was found.

Dr. Reck described the excavation in his lecture. He turned up five strata. In the bottom stratum were rhinoceros bones; in the second the man, elephant bones, and the skull of a hippopotamus; in the third antelope bones; in the fourth tortoise shells; and in the fifth and upper stratum the dry fauna of the steppes.

A full acount of the man with all his measurements will not be published for some time.—The Times.

Ash's Dowel Crowns

The following five pages, which show some of our moulds of Ash's Detached Post Crowns, are well worth close examination and study. The illustrations will be valuable as a reference and guide in ordering by mail. Keep these illustrations in a convenient place, as, of course, you will become a user of them when you are conversant with their superiority over any of the existing dowel crowns.

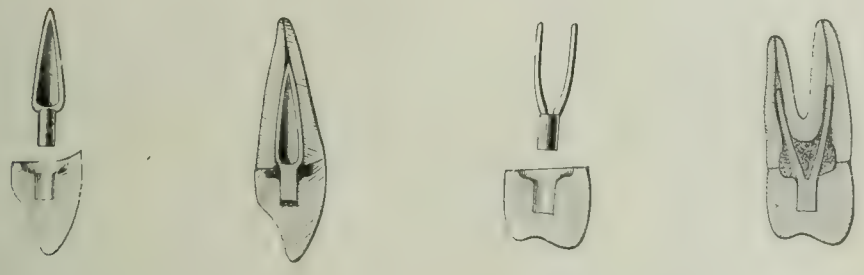
The price, too, is a great consideration—make a note of it—

12 cents each.
$10.00 per hundred.

Outside of the recognized value they have, as being made of our celebrated mineral, positively the only body that can be *successfully* polished after grinding, the moulds are the most serviceable. Notice in the Anterior and Bicuspid teeth, the provision for roots that are large bucco-lingually.

Note also the recess in the crown that takes the post. It is etched in each and every crown, assuring you of perfect cementation. We are also making now the labial aspect of our crowns much longer than shown in the illustrations. This improvement is obvious.

Ash's Dowel Crowns



The principal advantage of a detachable crown, as contrasted with a crown having a pin fixed in the mineral, lies in the facility afforded for grinding the base of the crown to fit the root and for bending the dowel to the angle required to obtain a correct bite.

In Ash's Dowel Crowns the measurements and shapes of the bases are such as to fit the greatest number of average roots.

The dowels are made of the best quality Dental Alloy, and are much more rigid than Platinum; they are strongest at the part which has to bear the greatest strain, viz., where the crown joins the root. Those intended for bifurcated roots of Bicuspids are extremely strong; at the same time the pin ends are sufficiently pliable and thin to allow them to follow the bends of root-canals. We need hardly emphasize the serious objection that exists to the insertion of a base metal pin in a natural root.

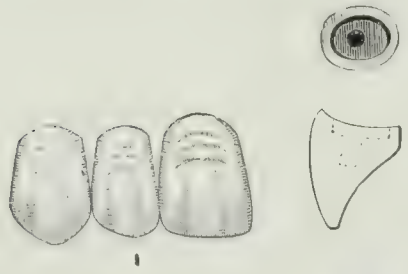
Made in sets of six—Centrals, Laterals, and Canines in thirty sizes and patterns, Bicuspids in fifteen sizes, and Molars in fourteen sizes; other sizes in preparation.

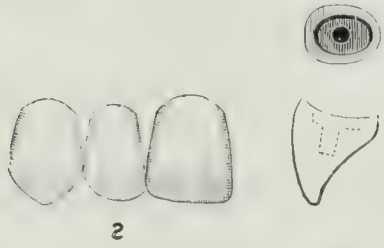
Each	12c
100 Crowns	10c
500 Crowns	9½c
1000 Crowns	9c
Single Pins, in two sizes, in Dental Alloy...each	35c
Bifurcated Pins, in Dental Alloy.....each	45c

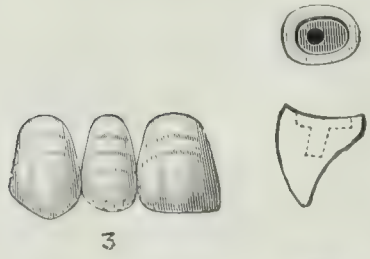
Base Metal Pins, of new and improved form, made of stiff white metal, roughened all over, each 5c.

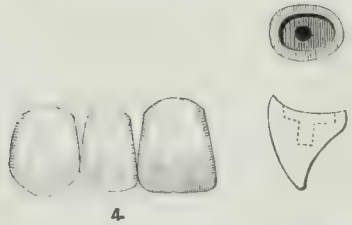
The same for Bifurcated Roots, 15c. each.

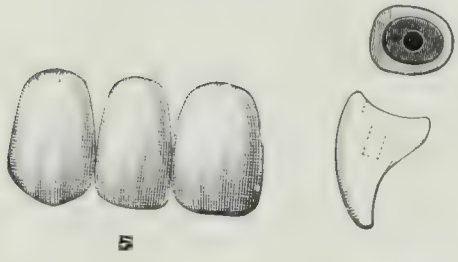
ASH'S DOWEL CROWNS—UPPERS

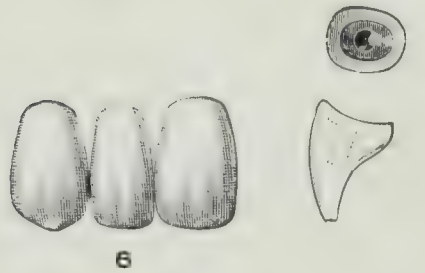

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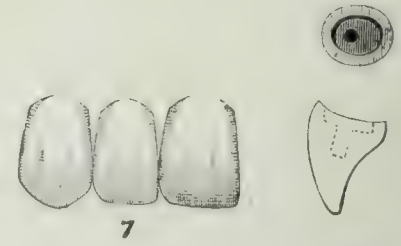

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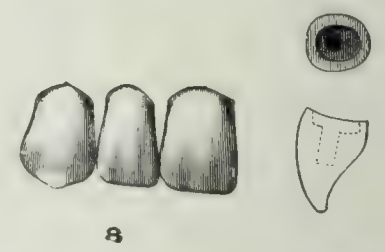

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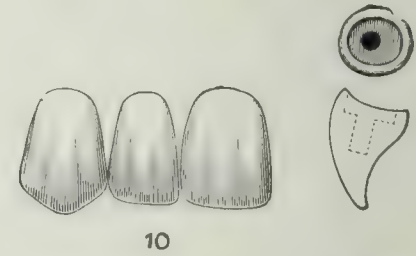

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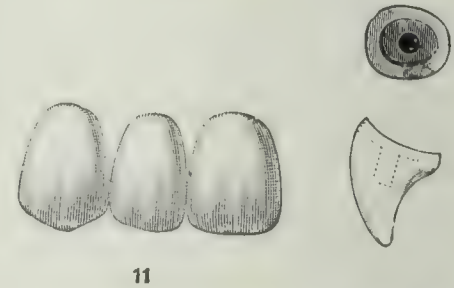

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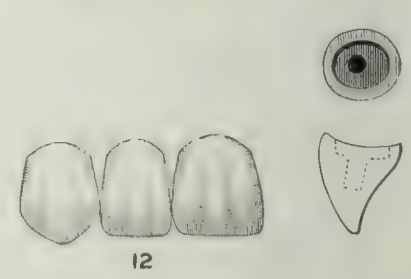

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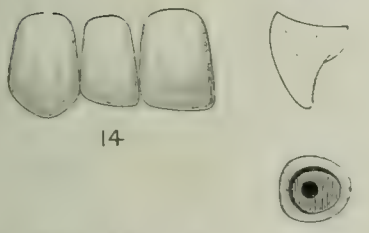

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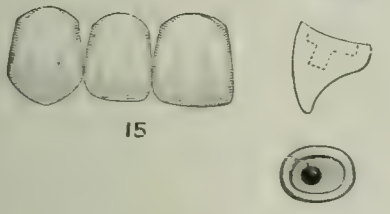

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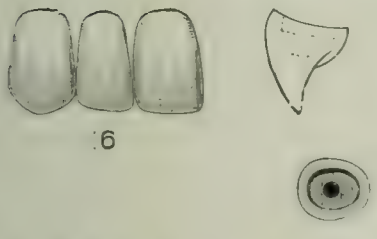

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ASH'S DOWEL CROWNS—UPPERS

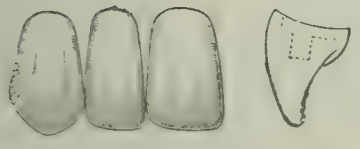

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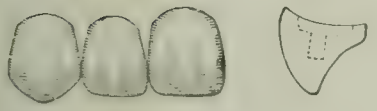

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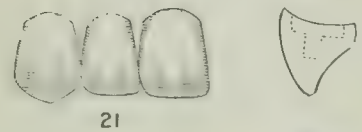

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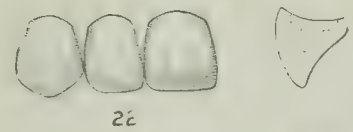

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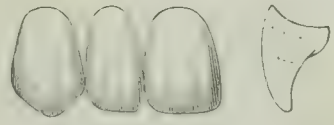

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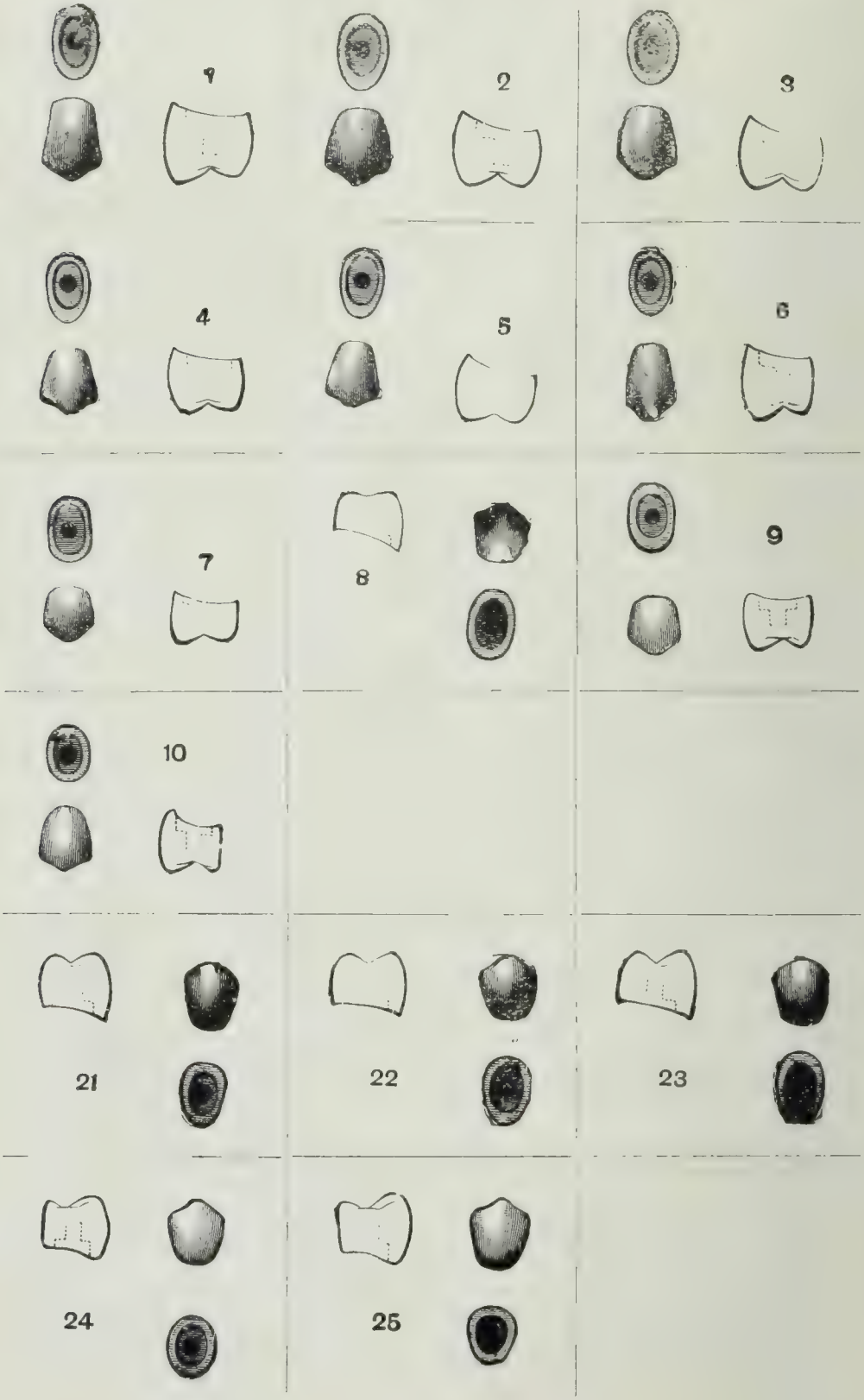

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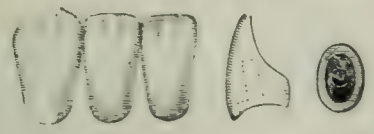

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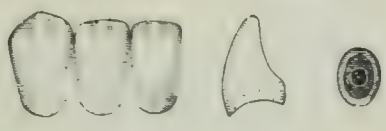
ASHS' DOWEL CROWNS—BICUSPIDS



ASH'S DOWEL CROWNS—LOWERS



51



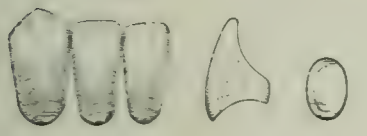
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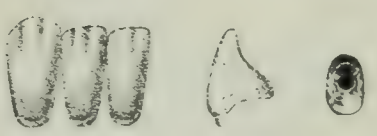
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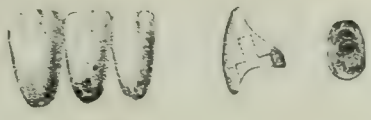
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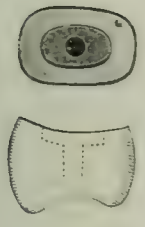


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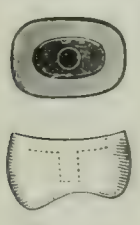


57

MOLARS



1



4



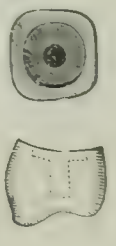
7



2



5



8



3



6



9

Let us send you a nice Case of two hundred Dowel Crowns

TWENTY DOLLARS

You cannot get One Hundred of any other reputable Crown for less than

NINETEEN DOLLARS

Added to this Ash's Mineral Body of which all our teeth and crowns are made, is the only body that can be successfully polished after grinding.

Our Moulds are the most natural and the grinding surfaces are better than on any other make of Crowns

---

Claudius Ash, Sons & Co., Limited

Aluminum for Casting

If you Want the Best Aluminum Specify

"ASH'S"

If you have not already used ASH'S 99 per cent. Aluminum or ASH'S Aluminum Alloy, send in a Mail Order now.

We have many unsolicited testimonials from one end of Canada to the other.

One of our customers writes:—"Send me 20 packets ASH'S Aluminum Alloy for casting metal plates. **I find this good."**

PRICES

Aluminum Ingots	per lb.	$1.50
Aluminum Ingots	per half lb.	.75
Aluminum Alloy	per pkg.	.65

Claudius Ash, Sons & Co., Limited



Bottle for Local : : Anaesthetic : :

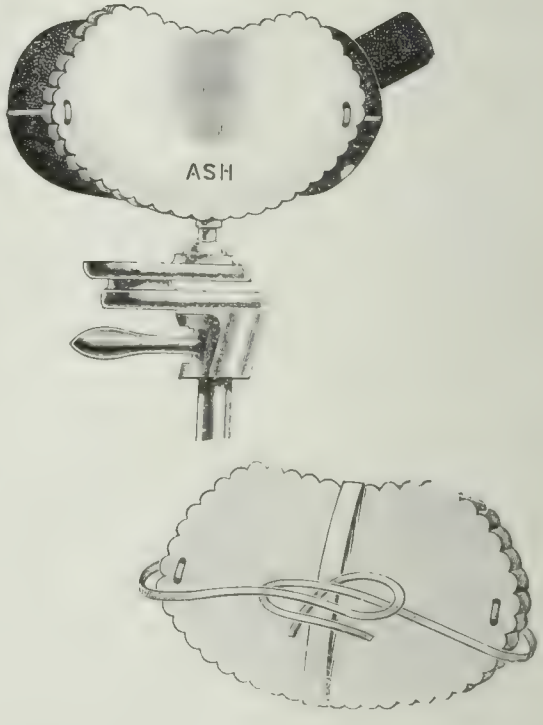
A nice attractive bottle with a burned on label

60 CENTS EACH

Sectional : : : Head Rest Pads

A very useful paper pad suitable for Wilkerson or any Sectional Head Rest

70 Cents Package



Claudius Ash, Sons & Co., Limited

Ash's Gold Solders

Unsurpassed iu colour and working qualities.

A leading Toronto Dentist says:—"The best Solder I have ever used."

14 kt	$ .65	dwt.
16 kt	.75	"
18 kt	.85	"
20 kt	.95	"
22 kt	1.05	"

In quantities of 1 oz. ordered at one time, Cash with order, 3% is deducted.

An ounce Gold order may be made up of various kinds of Plate and Solder.

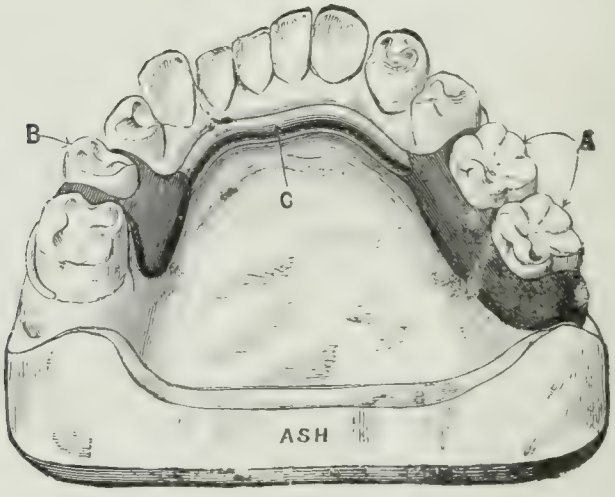
Ash's Dental Alloy Wire

Square and Round, - $1.12½ dwt.
Sold only in lengths of 2 dwts. each

This wire is very rigid, being composed of Platinum and Silver and is high fusing enough to admit of pure gold being soldered to it.

Ash's Oval Gold Cased Wire

For Bar Lowers



Bar Lower Dentures have come into universal demand. Note some of their advantages.

No tendency to push teeth outwards.

Greater cleanliness.

Less bulk.

Greater rigidity.

Per dwt.....40 Cents

Ash's Imperial Golds

CYLINDERS

SIZES $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, ASSORTED

$\frac{1}{8}$ oz. $3.50

FOIL

CORRUGATED AND COHESIVE, No. 4

$\frac{1}{8}$ oz. $3 50

3% Discount allowed for 1 oz. lots for Cash.

HOPPER'S

Adjustable Strengtheners

For Vulcanite Dentures

(Patented. Patent No. 23,537 (1912)

BRITISH MANUFACTURE

Made of an Improved Grooved Wire

Entirely New in Principle

Can be Expanded or Contracted

Adaptable to any shape of Palate

Made in Seven forms—Six for Uppers and One for Lowers

Suitable for every kind of Vulcanite Denture
Add elegance to the appearance of Cases

Supplied by all Retail Dental Dealers

SOLE AGENTS

Claudius Ash, Sons & Co., Limited

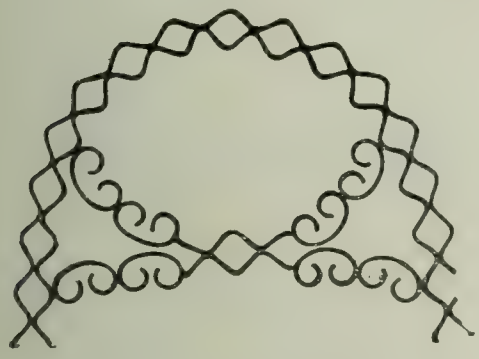
HOPPER'S STRENGTHENERS

(Continued)

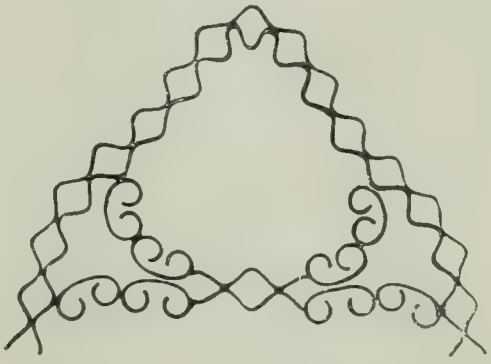
HOPPER'S ADJUSTABLE STRENGTHENERS are made of the well-known cross-grooved wire in 16-carat Gold, 9-carat Gold, and in Victoria Metal.

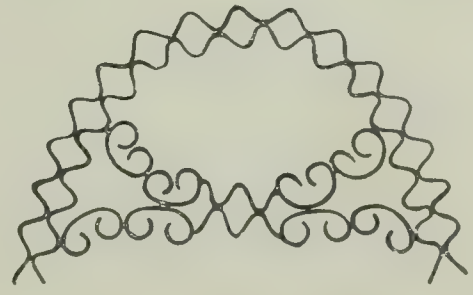
They embody an entirely new principle, and have a far wider range of adaptation than the scroll-work patterns of Strengtheners.

No. 1 AS SOLD



This same form is shown differently shaped in the two right-hand illustrations.





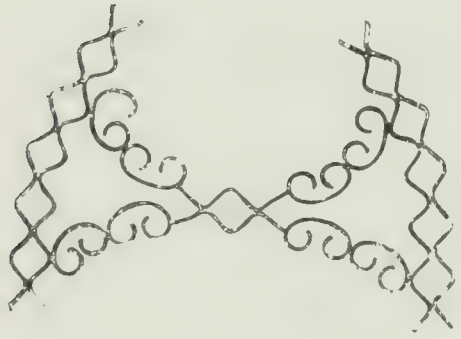
If desired, this No. 1 Strengthener and also No. 3 can be used for skeleton plates with the centre of the palate cut away. Such plates are, of course, cleaner in wear than full plates; moreover they afford greater comfort to the patient, and the mouth remains in a healthier condition.

As will be clearly seen from this and the two following illustrations, they can be expanded or contracted to suit any shape of palate, and when adjusted to the edge or ridge of dentures they give strength where the strain is greatest, and thus prevent fractures where they usually occur.

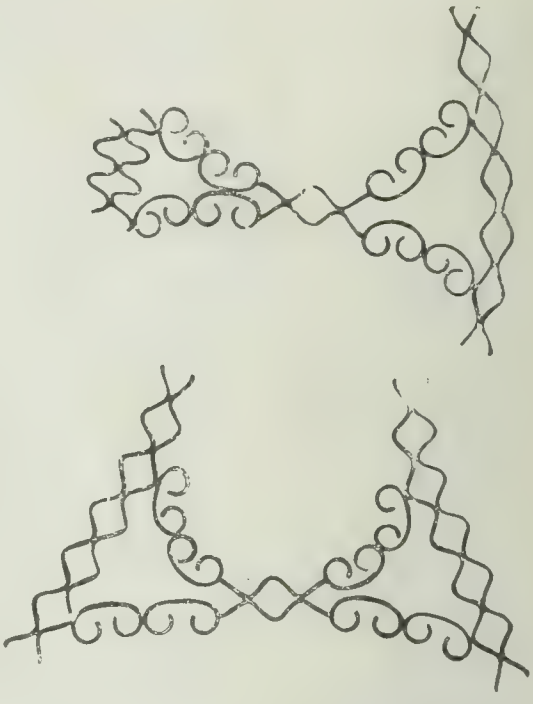
HOPPER'S STRENGTHENERS

(Continued)

No. 2 AS SOLD

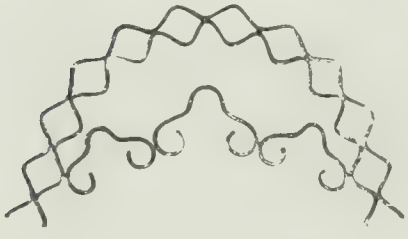


The two illustrations to the right show two ways in which it can be shaped.

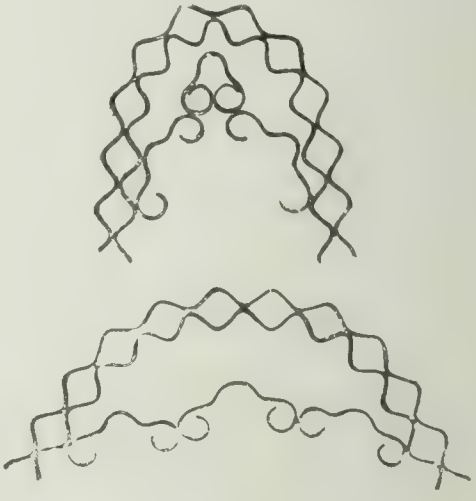


This sectional Strengthener No. 2, and also No. 4 shown overleaf, admit of sectional or saddle plates being made in vulcanite, and by compressing the meshwork the palate can be expanded or contracted to suit any given case.

No. 6 AS SOLD



The two illustrations to the right show how it can be compressed or spread out.



The one great advantage of Hopper's Strengtheners is this: **Owing to their large range of adaptation a small stock of the various forms is sufficient to enable the user to deal with every ordinary case.**

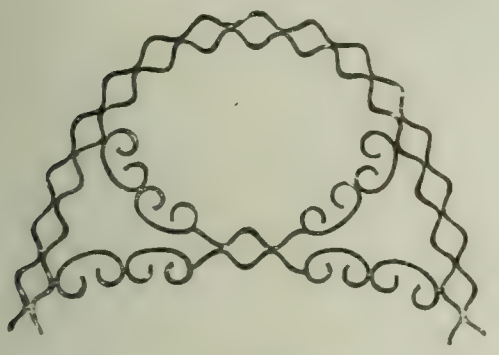
For Forms and Prices see next page

HOPPER'S STRENGTHENERS

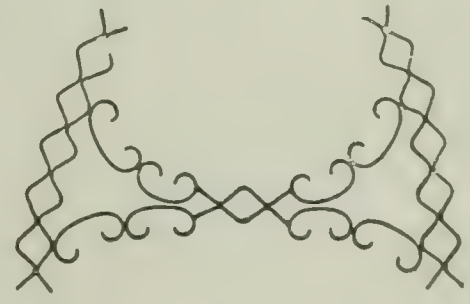
(Continued)

The illustrations on this page shows all the forms in which they are made. **Numbers 1 to 6 are for Upper Dentures and No. 7 is for Lower.**

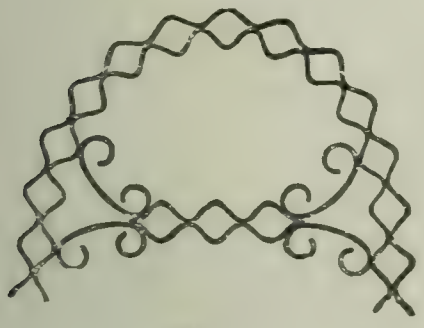
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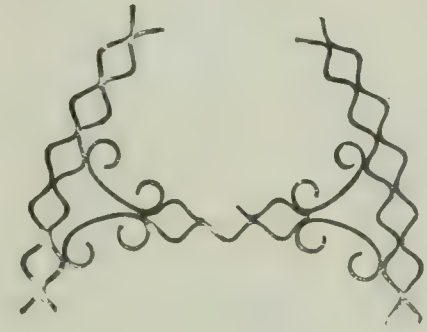
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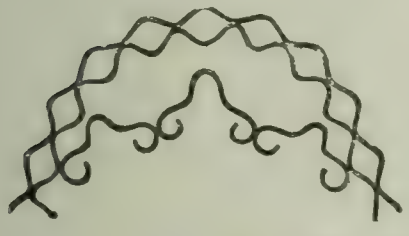
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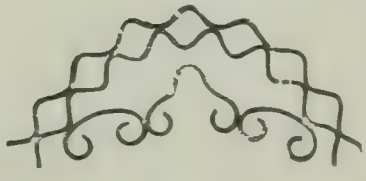
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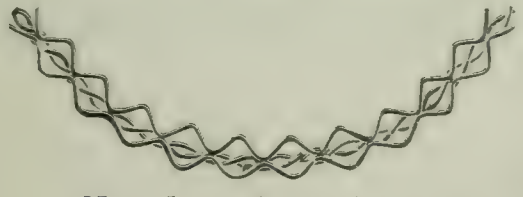
No. 5.



No. 6.



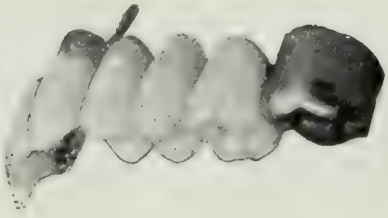
No. 7 for Lower Dentures



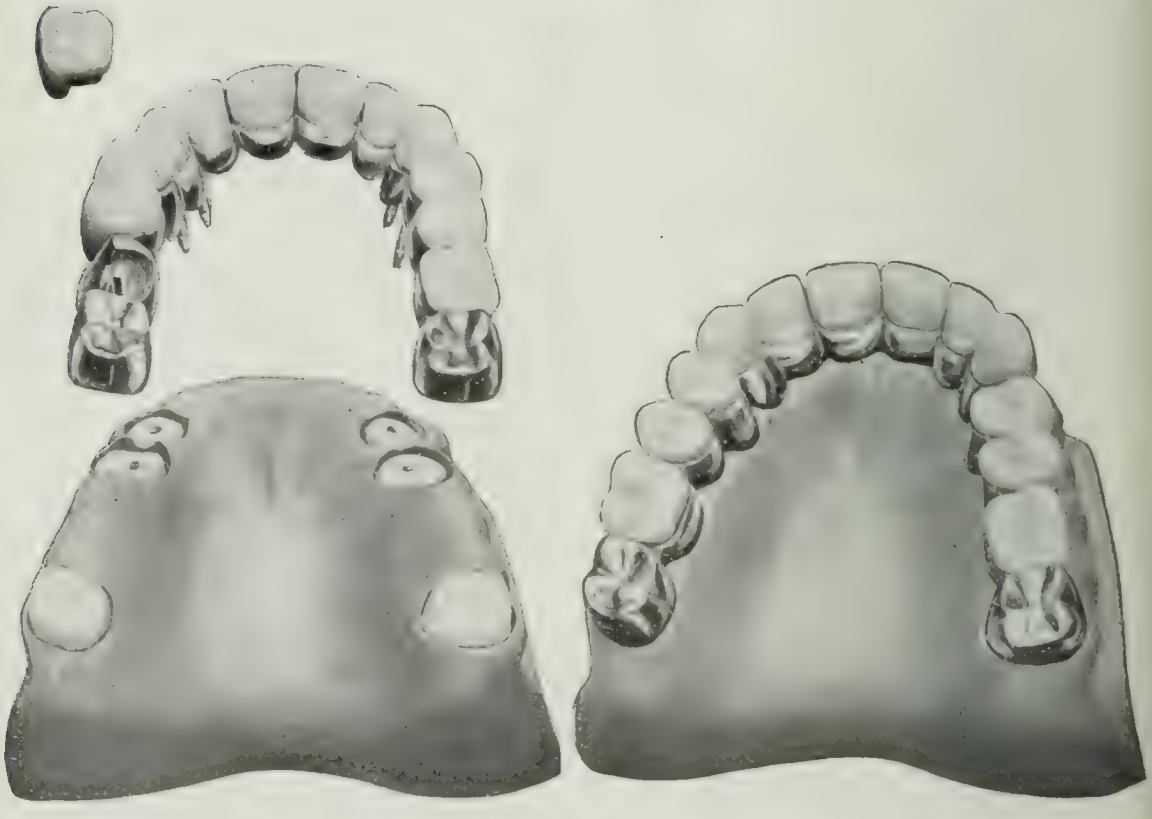
Nos.	1	2	3	4	5	6	7
In 9-ct. Gold each	$2.90	2.45	2.10	2.10	1.95	1.80	1.80

The 9-ct. Gold Strengtheners add elegance to the appearance of dentures when they are left exposed in the vulcanite.

GOSLEE TEETH



If you desire any of these Teeth, send your mail order to us, as we have the only stock of these teeth in Canada. Our assortment comprising **every mould and shade.**



PRICES:

Goslee Teeth without Pin - - -	$ .35
Goslee Teeth without Pin, per case of 100	30.00
Assortment B 370 Teeth and an assortment of Pins in handsome case - -	$100.00

Claudius Ash, Sons & Co., Limited

PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice, Walkerton, Ont. Apply Dr. F. Hughes, Waterloo, Ont.

FOR SALE—Dental Office in country town, equipped with Chair, Engine and Gasometer. This Practice yields $1,700 per annum to a visiting Dentist one day per week. Apply Ash & Sons - - - - - - $350

FOR SALE—Dental Practice, Windsor, Ont. Apply Ash & Sons

FOR SALE—Dental Practice, St. Stephen, N.B. Apply Ash & Sons

SECOND-HAND GOODS

1 Leighton-Jackes Overhead All Cord Engine, 110 V., 60 Cycle, with Direct H.P. - - - - - - - $80

1 S.S.W. Pattern Chair, Leg Base - - - - - - 30

1 Special Golden Oak Cabinet with Mirror and Medicine Top, practically new - - - - - - - - 60

1 Davis Gasometer, less Face Piece and Tubing, excellent condition - - - - - - - - - - 18

1 Wetherby Suction Machine (new style), in A-1 condition 25

1 Davis Gasometer
1 Mills Centrifugal Casting Outfit } - - - - - - 25
1 Olivian Swager

1 Large G. O. Cabinet. A-1 condition. A bargain - - 60

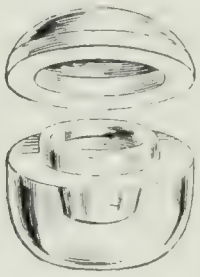
1 Ash Britannia Chair. Leather upholstery. A-1 mechanism 100

1 Davis Vulcanizer. Good condition - - - - - - 10

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For holding small quantities of medicines, pummice, etc, for individual or immediate use.

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Porcelain bridge work.

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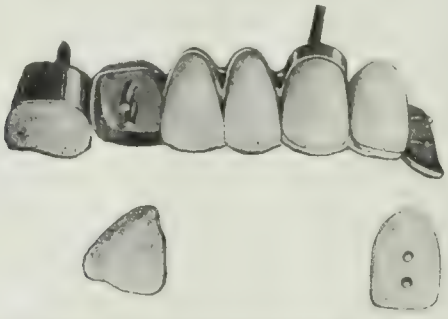
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ROOMS, 1, 2, 3, 4 & 5,
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"Send good Plaster Impressions and correct wax bite and leave the rest to me."—*C. L. Daly*



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Gold Inlays
(Send wax impression packed in tissue paper)
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Plate Work, $2.50 to $3.00
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Swaging metal plates (swaging only) Aluminium - - $3.00
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Send impressions (unpoured) plaster preferred, for all classes of work including metal work.

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You will not be disappointed.

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It saves time.

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1 Electro Dental Automatic Switchboard, Onyx Face, 110 v., 60 Cyc.
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1 Hot Air Syringe, Electro Dental.
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This outfit is new, having never been taken out of its packing case, the owner having died while outfit was in transit. Original price $422.35. Will accept $366.

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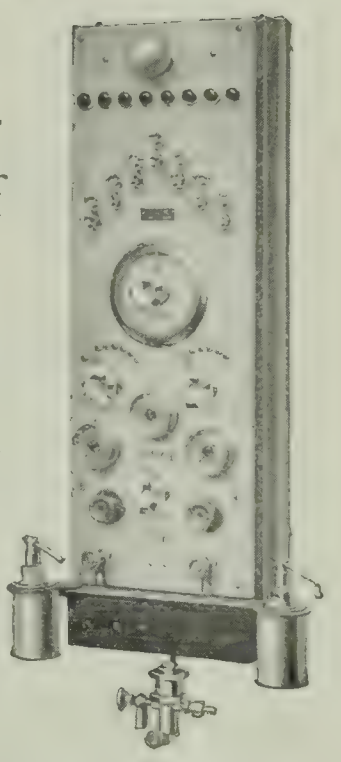
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DE TREY'S SYNTHETIC PORCELAIN

This Cabinet with contents complete **$27.75**

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Order preferably from us direct, giving your dealer's name and we will ship to you and bill through him.

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Caulk's SyntheticCabinet Equipment

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This equipment comprises the following:—

De Trey's Synthetic Porcelain, 6 Half Portion, and Nos. 3 and 6 Full Portion Powders, with Liquids	$18.00
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1 Synthetic Glass Slab	1.00
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Mahogany Cabinet	5.00
Total cost of these articles when sold separately	$33.25
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The demand for this Cabinet is so great that we believe that soon every Synthetic user will have one.

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OPTIONS.

You may select the shades of powder you choose, or leave the selection to us. But in all cases the order must be for not less than 10 half portions.

You may substitute tantalum instruments for the ivory instruments at the regular prices for tantalum. Or you may substitute for the instruments and shade guide, if you already have them, additional Synthetic Powders and Liquids.

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Laboratories, Milford, Delaware.

Canadian Branch—70 Bond St. - TORONTO

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Oral Prophylactic is exactly provided in Pyorrhocide

BECAUSE Pyorrhocide removes daily deposits of salivary calculus that contribute to the formation of tartar, the breeding place of the bacteria of caries.

BECAUSE Pyorrhocide naturally stimulates blood circulation in the gum tissues—strengthens—revitalizes those tissues to more effective resistance to germ infection and multiplication.

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BECAUSE Pyorrhocide, by preserving in health the tissues surrounding the roots, insures permanent abutments for restorations.

BECAUSE Pyorrhocide, from its original, scientific combination of constituents, is a vitally important part of the consistently successful Dentinol and Pyorrhocide Method of preventing and treating pyorrhea.

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BECAUSE Pyorrhocide produces results that insure satisfied, appreciative patients, and, therefore, a constantly increasing clientele and enhanced professional reputation.

Pyorrhocide may be prescribed through druggists, and can be procured by dentists at quantity rates through dental supply houses.

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True-to-Nature Teeth

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Notice the WORN EFFECT of the LOWER BUCCAL CUSP, as shown in the above cut.

You have probably ground THOUSANDS of these cusps,

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The Weber New Model No. 42--$42

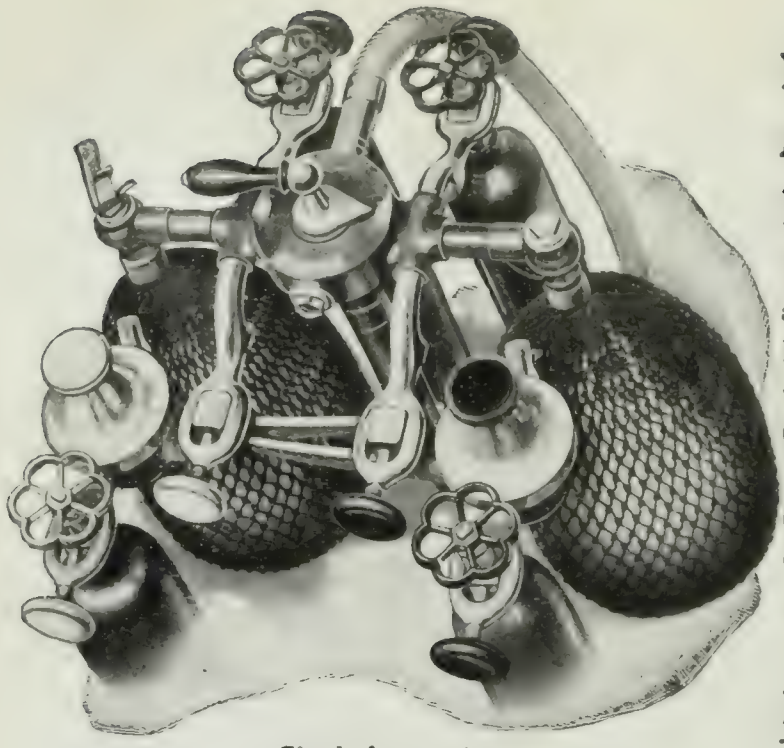
Pearl Opal Glass Valve Shield and drip cup combined. New patented feature. Also Saliva Ejector holder.

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The Outfit which has popularized Dentistry

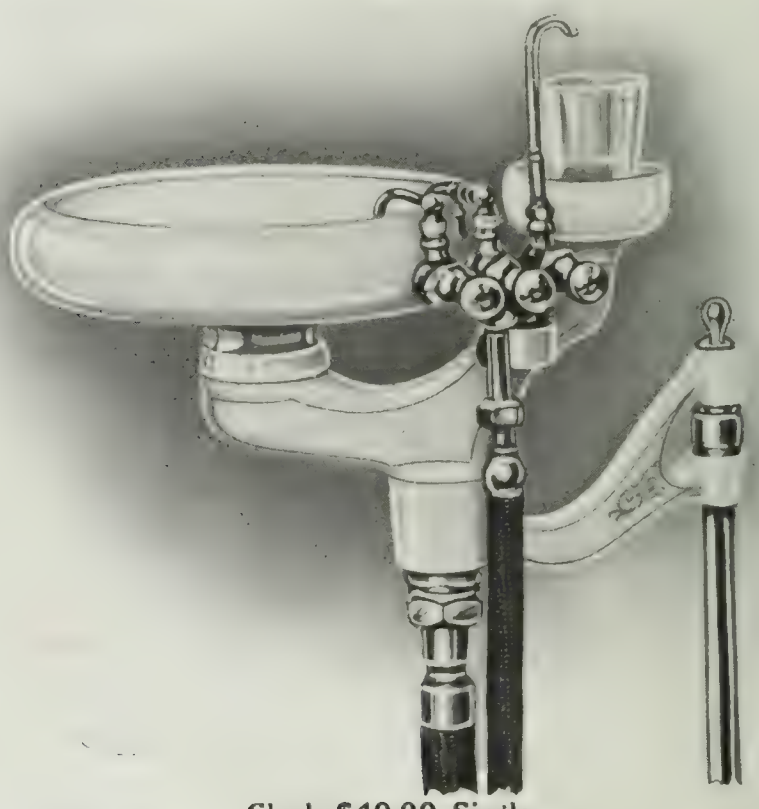
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Hundreds of Clark Outfits are spread over the foreign lands. They heard of the wonderful results the Clark Outfit produced in America, sent for Clark demonstrators and installed Clark Outfits.

Pain is the Bugbear the world over.

Send for our new Statistics

A. C. CLARK Grand Crossing **CHICAGO**



Clark $40.00 Single

I'M JEALOUS of my new Clark Spittoon, writes an Ohio dentist. It's so bewitchingly beautiful and runs so efficiently, that my patients won't stop admiring it. I bought it for my second office, but have promoted it to my main operating room.

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Since advertising our CONE SOCKET MIRRORS at 25 cents each in previous issues, we have sold many thousands of them.

We want to attract your attention also to our

Metal Handle Mirrors

30 CENTS EACH.

We have a fine stock of these and can supply them either PLAIN or MAGNIFYING in the various sizes.

A request postal will promptly bring one to you

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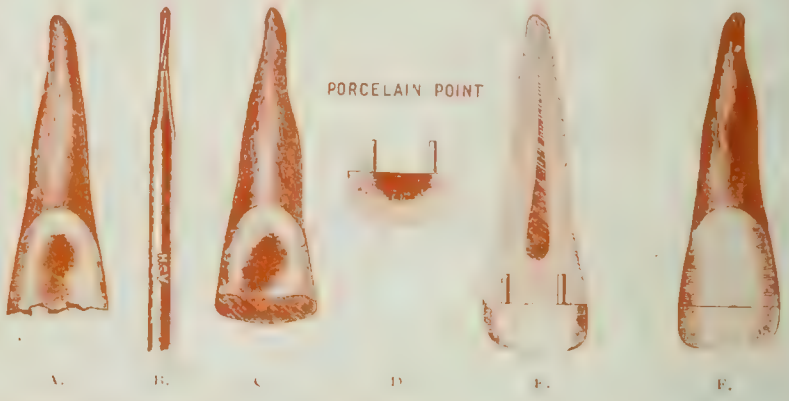
FOR RESTORING THE INCISAL EDGES OF UPPER ANTERIOR TEETH.

MADE IN SEVERAL SIZES AS ILLUSTRATED BELOW.



Singly - - - each, 35c.

TREATMENT OF A FRACTURED INCISOR WITH SUCH A TIP AS ILLUSTRATED ABOVE.



A. The fractured tooth palatal view.
B.—Drill for making holes for the reception of the pins.
C.—Prepared tooth ready for Tip—palatal view.
E.—Section of repaired tooth which shows position of pins in relation to the pulp.
F. Labial view of finished tooth.

CLAUDIUS ASH, SONS & CO., Limited
TORONTO

VOL. 5 No. 3

ASH'S CANADIAN MONTHLY CIRCULAR

ISSUED FROM TORONTO ON THE FIRST OF EACH MONTH

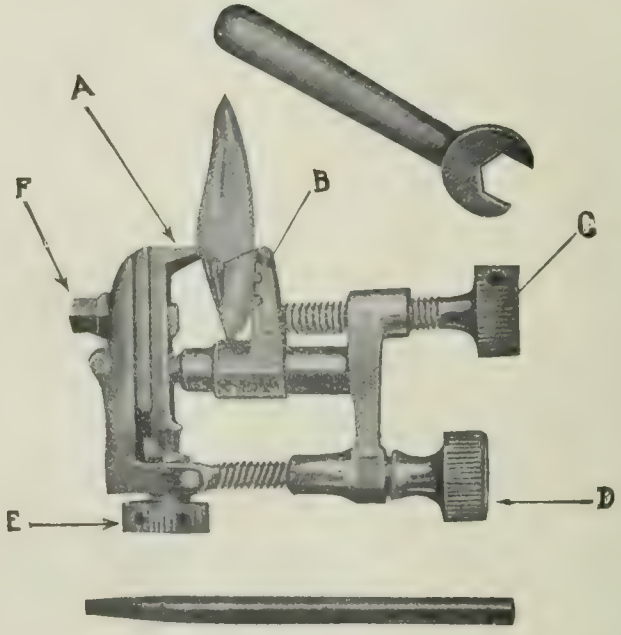
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Mosley Crown Remover

An Ideal Appliance for Removing Crowns from Roots.

REGISTERED



NATURAL SIZE

The Mosley Crown Remover was the first instrument devised for removing Dowel Crowns from the mouth. Its primary object is to remove these crowns without in any way injuring the roots. This is accomplished quickly and painlessly. In most cases the crowns remain uninjured and can be used again if desirable.

A slight turn to the right of Thumb Screw E removes the Crown, one Wedge Tongue pulling the Crown downwards, the remaining two supporting the root.

A. Wedge Tongues 3	D. Thumb Screw
B. Vice Jaw	E. Thumb Screw
C. Thumb Screw	F. Jam Nut

Complete directions with each Remover.

PRICE - - $5.50

Claudius Ash, Sons & Co., Limited

Rules governing Exchange of Teeth and General Goods

Miscellaneous Teeth which we select to models will be charged without option of exchange. In other words, teeth will not be accepted in exchange for teeth selected to models. This does not however apply to selections made by the customer.

General Dental Goods including Teeth will not be accepted for Credit unless returned within 30 days of original purchase.

Precious Metals

Precious Metals will be sold strictly for Cash with order or on delivery. In the case of out of town customers, all orders for Precious Metals must be accompanied by Cash or subject to sight draft with exchange added.

Claudius Ash, Sons & Co., Ltd.



ASH'S INLAY AND CROWN CEMENT

GREATLY IMPROVED

(Oxyphosphate of Zinc.)

Features—Extra Tenacious; Extremely Dense; Very Durable; Non-Expanding; Highly Resistant to the Fluids of the Mouth.

One of the wants experienced by the Inlay and Crown worker is a reliable and enduring cement, which can be depended upon to retain Inlays and Crowns in position for an indefinite time.

Ash's Inlay and Crown Cement meets the need, and possesses all the features enumerated above. The powder is very finely ground, it is easily mixed with the liquid, and forms a cement which practically does not expand during crystallization. It is thus free from an objection which is present in most oxyphosphate cements that are used for setting Inlays and Crowns, viz., expanding during crystallization, with the result that the bite is raised in the case of a Crown and the fit is disturbed in the case of an Inlay.

Directions for Use.

Put a small quantity of the Liquid on a clean glass slab, place enough Powder near it, but not in it, mix the two together by drawing a little Powder at a time into the Liquid with a spatula, until it is of the consistency of milk. In this condition it is suitable for setting an Inlay. (The Inlay should be smeared with a camel-hair pencil dipped in the Cement, and then the cavity should also be smeared so as to obtain the junction of cement with cement.) For setting Crowns, the Cement should be mixed to the consistency of putty.

Supplied in the following shades:—

White, Pale Yellow, Yellow, Pearl Grey.

One-shade packet, any shade -	per packet $1.25	6 pks. for $ 6.00
Four-shade packet - -	per packet 3.00	6 pks. for 15.00

One Less Step Left to Chance!

Send us a Mail Order for a

Shoemaker=Miller
Inlay Investment Mixer

and ensure uniformity in the mix of your Inlay Investments.

The most thorough and modern way of mixing Inlay Investments, doing away with the small bubbles that interfere with the perfection of casting and fit.

PRICE - $1.25

Claudius Ash, Sons & Co., Limited

TORONTO

Ash's Canadian Monthly Circular

VOL. V. TORONTO, SEPTEMBER 1, 1914 No. 3

ITEMS OF INTEREST.

Analgesia with N_2O and O_2 and N_2O and Air.—The difference between analgesia produced with nitrous oxide and oxygen and with nitrous oxide and air is thus clearly set forth by Messrs. F. M. Holborn and H. G. Dumayne in the British Dental Journal: "We have experimented with no rebreathing whatever, with breaths of pure N_2O and air alternately or as required, with no plus pressure, etc., and we say emphatically that no one who has had N_2O and O_2 properly administered would ever willingly replace the oxygen with air. With N_2O and O_2 the sensations, roughly speaking, are: slight fulness of the head with increased pulsation; this passes, and is followed by tingling, and this almost at once by a definite 'sweep' of analgesia over the body accompanied by a feeling of perfect calm that is delightful to experience. With N_2O and air the first sensations are somewhat the same, except that the smell or taste (whichever it is) of the mixture is not so pleasant, but the fulness of the head and general 'buzziness' increase, and the feeling of lightness of the body and absolute tranquility of the mind are not reached; in short, to one who has undergone properly conducted N_2O and O_2 analgesia, N_2O and air is most disagreeable, and partakes as much of the nature of a counter-irritant as an anaesthetic, the patient being so occupied with his strange feelings that a little extra discomfort such as drilling out a cavity does not matter."

Army Dentistry.—As years go on, no doubt, there will be a vast improvement in the masticatory organs of the recruit, brought about, firstly, by the various school dental clinics that are gradually being organised all over the country; secondly, by the various public dental services, dispensaries, and hospitals; thirdly, by the dental attention to the Boy Scout Movement; and lastly, by the various lectures which are being delivered to the children and their parents on the care of the teeth and oral hygiene.—R. M. Wormald.

Bite Plates in Vulcanite Work. Two conditions seem to me to be necessary to secure accurate results:—

1. The bite plates must be made to the models on which the dentures are to be constructed.

2. The plates must be so rigidly made that the heat they are subjected to in the mouth and the force which is brought to bear upon them do not distort them.

The temptation to save time by making bite plates to models made from earlier impressions of the mouth is frequently fatal, so far as accuracy is concerned, and leads in the long run to a great waste of time; for no two impressions of a mouth are alike, and a bite plate made on one model should not be expected to fit the other.

As a material for making a rigid base for a bite plate, nothing has proved superior in my hands to Graft's base plate. The material can be easily softened by the heat of a Bunsen burner, accurately fitted to any model, and provides a base sufficiently rigid to maintain its shape under the conditions it is subjected to in the mouth.—W. Simms.

Royal College of Surgeons' Museum.—In the Odontological Section of the Museum, many improvements have been carried out by the Honorary Curator, Mr. J. F. Colyer. The Hunterian specimens are better mounted and displayed than before; many new and beautiful preparations illustrating the anatomy of the teeth have been added; while the sections illustrating the irregularities, pathology, and comparative pathology of the teeth have been extended, re-numbered, and re-catalogued. The collection is much visited by dental students and by those carrying out investigations in dental anatomy and pathology. A meeting of the Odontological Section of the Royal Society of Medicine was held at the College in order that its members might have an opportunity of seeing the various additions which have been made during the year, and the various improvements in arrangement and cataloguing carried out by Mr. Colyer. It is obviously much to the advantage of the collection that such meetings should be held occasionally in connection with the Museum.—The Dental Record.

The Dental Clinic and Preventive Measures.—The following are some of the reasons why the dental clinic is the institution par excellence to introduce these preventive measures into the home:

(1) The same human failings which are frequently responsible for the spread of tuberculous infection are a very prevalent cause of dental caries.

(2) Dental caries is the commonest of all diseases, and oc-

curring as it does in early childhood, is excuse for entry into a large number of homes where there are young mothers.

(3) Dental caries is a concrete thing and cannot be denied by the parent.

(4) Dental caries leads to many forms of disease—alimentary, nervous, and specific—and this is known and admitted by parents, who are generally willing to accept help and advice when given.

(5) Dental treatment itself in childhood is a preventive measure, and could well be coupled with advice in the home on diet, dental care, and general hygiene.

(6) There are points of practical importance in after-life, such as the passing of the standard for entry into the Services, which are arguments of value, likely to persuade the mother to look after her child.

The fear of infection is not so likely to deter people from working as visitors for a dental treatment centre as it is from working for a tuberculosis dispensary.

It is because the dental clinic is the widest means of finding where the need lies, and the easiest way of proving the necessity for parental care, that I have ventured to place the subject of care committees so fully before you.—E. C. Sparrow.

Analgesia.—Nitrous oxide-oxygen analgesia may be successfully used in eliminating pain from the following work:—

1st. In preparing hyper-sensitive cavities.

2nd. In grinding and shaping teeth for crowns and abutments.

3rd. Application of the ligature when applying the rubber-dam.

4th. In adjusting cervical or rubber-dam clamps.

5th. In treating pus pockets, and removal of calculi from teeth affected with pyorrhoea alveolaris.

6th. In rapid wedging of teeth to gain space for cavity preparation and filling.

7th. In setting crowns or abutments for bridges or hypersensitive teeth.

8th. For implantation of iridio-platinum roots.

During the past few months I have implanted a large number of these roots before my various classes during the stage of analgesia. At least ninety per cent. of these roots for implantation cases can be successfully handled during this stage. Success depends upon the ability of the operator in producing and maintaining analgesia; also on his ability in controlling his patient during the above-named phases of operative work.—A. E. Smith.

Children's Mouths.—If it be conceded that the most unhygienic feature of the child is its mouth, we then come to the problem: How can we establish clean mouths, sound teeth, and the toothbrush habit? To try and fill the teeth of the children in our public schools is a noble charity, but an endless chain. Like an immense flood decayed teeth have spread over the civilised world to such an extent that hardly one-tenth of the population of a country such as ours could find a sufficient number of dentists to fill their teeth. I believe it to be a conservative estimate to say that the children found in the first five grades in our public school would average not less than six good-sized cavities in their teeth. If you will figure out how many children there are in your city in the first five grades, you can roughly estimate the immense amount of work there would be for a corps of dentists to cope with such a task as filling their teeth. This would not mean merely plugging a hole in a piece of ivory; it means the painstaking work of a dental operation on a live tissue, as well as the tedious and slow work of treating and saving teeth which have dead pulps and possibly abscessed roots. —Alfred C. Jones.

How to Use Floss Silk.—There is no doubt that floss silk is the most efficient agent, if properly used, for cleansing the lower front teeth and preventing the accumulation of tartar at that point, and yet I do not remember having read any directions for its proper and effective use. In all that has been written and printed on the subject of oral hygiene this one most important point has been untouched. Indeed, from what I have seen in the mouths of patients who have been in the hands of so-called pyorrhoea specialists, I am convinced that most dentists do not know how to use the silk properly, much less teach it to their patients. For many years I have taught my patients the following simple method, which, if followed, has proved entirely satisfactory:—Pass the thread entirely around the tooth, get it well down to the neck of the tooth, cross the ends in front, draw it tight, and then pull first one end and then the other, thus wiping the entire circumference of the tooth. Treat each tooth separately, doing it before a mirror at first until familiar with the operation. When giving my patient the first lesson I use a black thread so it may be easily seen.—D. W. Barker.

The School Dentist.—To-day the supreme need of health is prevention, and there is no doubt that the school dentist may ere long be regarded as one who plays his part, and that no mean part, in the mental and moral development of the rising generation—the citizens of to-morrow.—Chas. H. Powell.

School Dentistry.—In my opinion, school dentistry is work that requires liberal holidays and liberal pay—liberal holidays

because the work is so very exacting and monotonous, and liberal pay because, under present conditions, the prospects are not good enough to warrant a man devoting his life to the work, and consequently it cannot be regarded as anything but a stepping-stone. And it must not be forgotten that in accepting a post of school dentist a man loses touch with all the finer side of his work which he has spent years in acquiring.

This is my third year, and before I take up any other work I think it will be necessary to spend a month or two at some hospital regaining what I have lost. However, I have never regretted taking the position, and I think it is an experience that will prove useful to me in the future.—Graham Cotterell.

Dental Education.—Up to the present, the well-to-do and middle classes have appreciated and utilised the services of the qualified men, but we are on the eve of revolutionary changes, and the needs of the great mass of the population must be met in the near future in one way or another. Provision for dental treatment of the elementary school children of the kingdom is already being made, and will be fully met within a few years. The value and need of dental service for the Army and Navy has been amply demonstrated and acknowledged, though not fully met; but in these directions we see at work forces which will very greatly increase the number of dentists, and we shall have an increasing number of students knocking at our portals for admission and education. The number of dental students relatively to medical students will greatly increase, and we shall have justification for asking that in the medical subjects taught to dental students there shall be the advantage and economy of special classes.—W. Simms.

Public Dental Service.—If the teeth of the industrial classes have hitherto been neglected, it was not because they required no attention: on the contrary, they were in greater need of treatment than were those of other sections of the community to whom dental treatment was lavishly supplied: and yet, while dental science and art have shown a most wonderful development during the past generation, the teeth of the working classes have degenerated into a condition shocking in the extreme—a condition recognised on all hands as an important factor in the causation of disease, and an element of high potency in that physical degeneration the possibility of which haunts the national mind.—R. Lindsay.

The Future Rôle of Orthodontics. — With preventive measures, healthy environment, earlier treatment, and higher ideal, even comparatively slight mal-alignments of individual teeth will be corrected. Such defects will not be neglected as

being merely of aesthetic importance. I look to the time when the Greek ideal of physical perfection may be recovered, and when a stigma will rest upon any parent who allows his child to grow up with any remedial deformity perpetuated. In certain classes of the community this condition obtains to-day. All that is necessary is wider and more general knowledge and appreciation. Prevention will reduce the amount of curative work to be done, and we hope that what has to be done will come so much more and more under the fostering care of the State that nearly every child may reach maturity so perfectly equipped in health, physique, and the beauty that comes-of these, as to make him one of a finer race of citizens than the world has yet seen, able to acquit themselves like men and do for the next generation what has been done for them.—Norman G. Bennett.

HINTS AND ITEMS OF INTEREST.

Cast Plates for Platinum Tube and Non-Platinum Tube Teeth.—In this method of using tube teeth the old objection to the labour of grinding-down the base of each tooth and fine-fitting it to the plate does not hold good; the posts, which should be of No. 1 dental alloy wire cut to the proper lengths, are inserted in the tube teeth, the teeth with the posts in them are pressed into the wax, the was is then contoured and the bie is taken. The ube teeth are then removed from the posts, the posts are left standing in the wax, and the wax form, with the posts in position on it, is then embedded and cast.

To facilitate removal, the tubes of the teeth should be oiled before the posts are inserted in them.

After the casting is completed, the teeth are cemented on the posts with a good oxyphosphate of zinc cement.—Claudius Ash, Sons & Co., Ltd.

To Unrust a No. 7 Chuck Handpiece. -If through neglect or other cause a No. 7 handpiece becomes rusty inside, soak it in paraffin oil for some hours.

When we find that the paraffin oil does not unrust the handpiece quickly enough, we take it and hold the part just behind the tip of the nose over a Bunsen flame, being careful not to make it too hot, and plunge it, as thus warned, into the paraffin. This always releases the internal parts.—Claudius Ash, Sons & Co., Ltd.

Children's Mouths.—A clean, healthy, functional mouth is of vital importance to the health of the growing child. The health

of our children is essential not only to their own happiness and welfare, but to our happiness also. Further, the vitality and prosperity of the nation must depend largely upon the health of our men and women. To attain the maximum amount of efficiency, either mentally or physically, it is essential that those important years during which growth of the mind and body is taking place should be as free as possible from disease, especially from chronic disease, the effect of which spreads over a period of years. If we allow a child to grow up with an unhealthy mouth, there is ample evidence to show that its growth will suffer—in very many cases severely. I am of opinion, based on careful and extensive observation, that it will never afterwards make up the ground it has lost.—F. St. J. Steadman in British Dental Journal.

A Functional Mouth is a Self-Cleansing Mouth.—In a mouth in which there are functionless teeth there will be areas in which food will stagnate and decompose, causing caries of the teeth and inflammation of the gums; further, this inflammation, being tender, will prevent mastication, and so render the whole mouth functionless. From this it follows that not only should septic teeth, which cannot be made healthy, be removed, but their antagonists too. The maxim just laid down may, in certain cases —happily not common—lead one on to perform a very drastic operation, viz., the removal of all the teeth; nor do I hesitate to perform this operation, the logical outcome of my reasoning, where I consider it necessary. I am quite convinced that on several occasions this operation may definitely be said to have saved the life of the child. In other cases an unhealthy, weakly child has been made healthy.—F. St. J. Steadman in British Dental Journal.

Under Weight in Children.—A child whose food is not nourishing it will be pale or "pasty"-faced, and will be mentally and physically ill-developed. It will be under weight. In other words, it will have a half-starved appearance. Now, Mr. J. F. Colyer has taken a number of children who have this half-starved appearance, children who were obviously under the normal weight for their size and age, and has weighed them before and after the removal of a large number of septic teeth, on the lines laid down above, and has found that they do not only rapidly **regain their normal weight**, but, much more even than this, they rapidly lose their unhealthy appearance and become rosy-cheeked; and, moreover, a child backward at school will often quickly reach its normal standard. I have myself weighed a large number of these children before and after treatment, and have been able amply to confirm Mr. Colyer's results.—F. St. J. Steadman in British Dental Journal.

Aluminum for Casting

If you Want the Best Aluminum Specify

"ASH'S"

If you have not already used ASH'S 99 per cent. Aluminum or ASH'S Aluminum Alloy, send in a Mail Order now.

We have many unsolicited testimonials from one end of Canada to the other.

One of our customers writes:—"Send me 20 packets ASH'S Aluminum Alloy for casting metal plates. **I find this good."**

PRICES

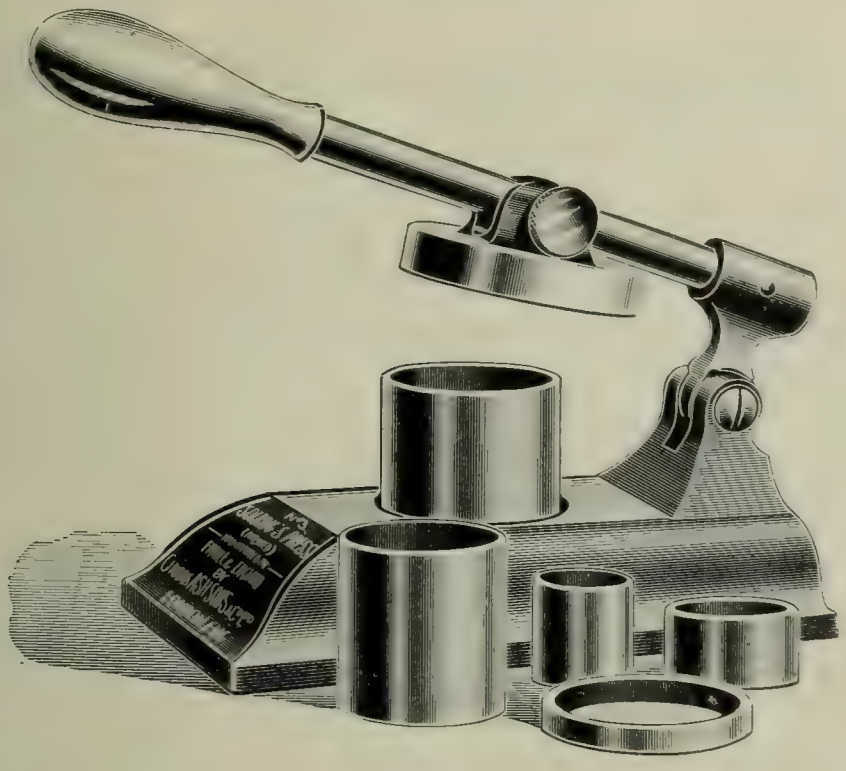
Aluminum Ingots	per lb.	$1.50
Aluminum Ingots	per half lb.	.75
Aluminum Alloy	per pkg.	.65

Claudius Ash, Sons & Co., Limited

Solbrig's No. 3 Press

(Patented).

For Casting of Gold and other Metals, Inlays, Crowns, Bridges, Backings, etc.



No. 2 Press and accessories consists of:—

Press,
2 Cylinders, Nos. 4 and 5,
2 Hollowing Cones,
1 box Asbestos Discs,
1 box containing—
    12 Sprue Wires,
    12 Rubber Bands,
    12 Sticks Wax,
1 Bunsen Burner,
1 Support for Holding Cylinders over the Bunsen,
1 pair Cylinder Tweezers,
1 tin Coating Material,
1 Book of Directions.

Price with accessories, $20.00

Aluminum Dentures

CAST WITH THE

Solbrig-Platschick Press

As testimony to the superiority of this appliance over other machines on the market to do this work, see the number of appliances left with us for sale by people who have immediately discarded them and purchased a

SOLBRIG-PLATSCHICK

on seeing it operated.

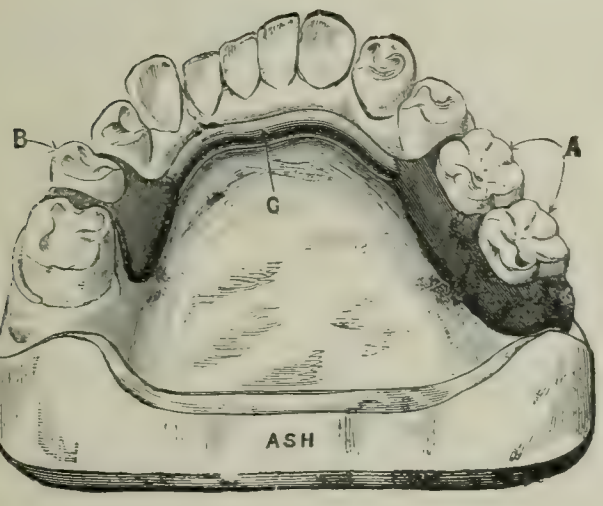
Write us requesting information regarding this "never out of order apparatus" and we will send you some interesting information about Dentures and Metals cast by Superheated Steam.

Better still, if you are in Toronto, come to our Depot and see it operated.

Claudius Ash, Sons & Co., Limited

Ash's Oval Gold Cased Wire

For Bar Lowers



Bar Lower Dentures have come into universal demand. Note some of their advantages.

No tendency to push teeth outwards.

Greater cleanliness.

Less bulk.

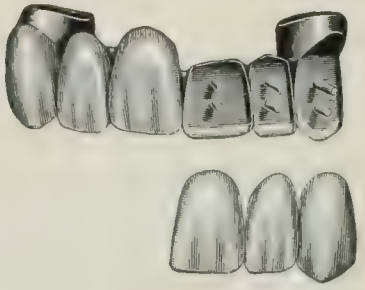
Greater rigidity.

Per dwt.....40 Cents

Claudius Ash, Sons & Co., Limited

THE NEW TOOTH

Dimelow Detachable Facings



¶ The manifold advantages of detachable teeth has been clearly demonstrated in recent years, yet for various reasons the only available detachable teeth have not become universal in their use.

¶ We now offer you the Dimelow Detachable Facings which overcome all the objections put forward to other teeth of this class.

¶ The following are some of the advantages:—

Ease in repairing, all being interchangeable.
Porcelain not subject to heat in Soldering.
Take up perfectly all gum recession.
Can be tipped with Gold if desired.
No weakness in tooth as body is not cut away.
No special Backings or Tools required.

¶ In addition THE DIMELOW has all the advantages ever claimed by any detachable facings.

¶ The posterior teeth are stocked in both veneer and all porcelain forms.

¶ The three following pages illustrate the various moulds.

¶ For prices and special assortment see Page 19.

Claudius Ash, Sons & Co., Limited

SOLE AGENTS

DIMELOW DETACHABLE FACINGS

Anterior Moulds

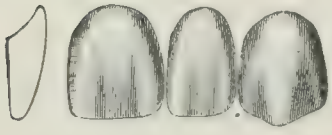


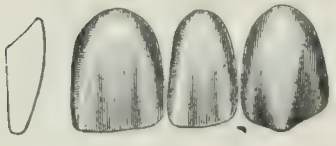
DIMELOW DETACHABLE FACINGS

Anterior Moulds


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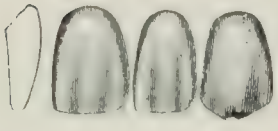

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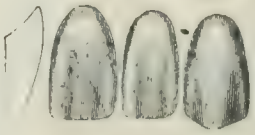

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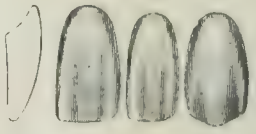

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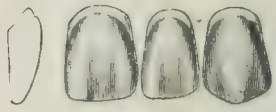

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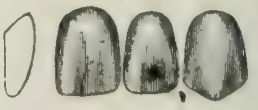

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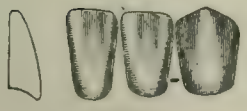

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DIMELOW DETACHABLE FACINGS

Lower Moulds


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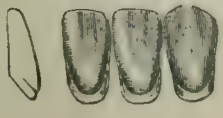

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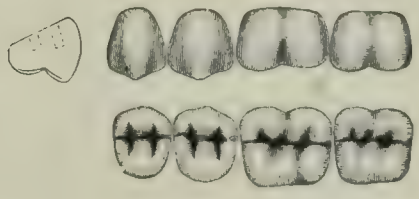

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All Porcelain Posterior Moulds

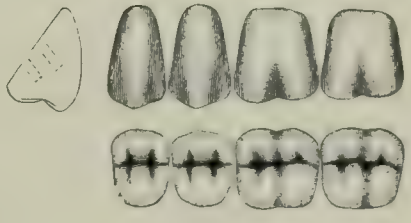
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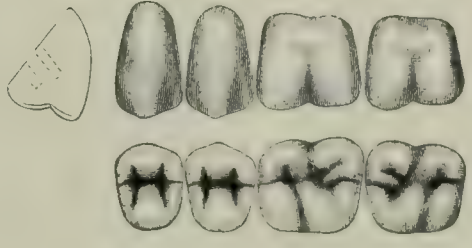
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4



5



The Dimelow Facing

DIRECTIONS FOR MAKING BACKINGS.

After grinding the facing to fit the gum and bite and beveling it toward the back, as per Fig. No. 4, cut a piece of 32 to 36 gauge gold, large enough to form a backing, which will extend well over the cutting edge. Cut a small slit in the gold, long enough to let the staple through.

After placing the staple in position in the tooth, force the cut gold over the staple until the thin arch protrudes.

With a pointed instrument tuck the gold up close to the staple, and under the arch. Bend the gold around the sides of the facing and well over the cutting edge. Trim off some of the surplus. Nip the gold at each of the cutting edge corners.

Wrap the whole in tissue paper to hold the three pieces in their respective places. Place in a swager, and with a few blows of the hammer or by pressure, the gold will adapt itself nicely to the facing and the staple. Remove the backing and the staple will come with it and will be held in place by the gold. Hold in flame and solder.

Most dentists will desire to tip the facings for protection, as the experience and practice of years has demonstrated its wisdom.

The thin gold tip that has been swaged over the cutting edge can be reinforced by burnishing a piece of thicker gold onto it. Then remove the porcelain and grasp the two pieces of metal with pliers, and after applying flux, hold in the flame of a Bunsen Burner and solder.

The directions above outlined for backing the Dimelow Facings apply also to backing the Dimelow All-Porcelain Posteriors.

As will be seen, these are constructed on exactly the same principle as the facing, but in swaging the backings as much gold should be brought down over the porcelain as the conditions will allow, this forming a cup into which the porcelain sets.

Dimelow Facings and All-Porcelain Posteriors lend themselves most perfectly to casting work. The great simplicity of simply inserting the staples in the holes and building up with wax for the balance of the crown or bridge will appeal to everyone. In this use care should be taken to see that the facing is well oiled to prevent the wax sticking to the ground surfaces, and the oil should be thoroughly removed to allow the cement to hold. Dipping the tooth in chloroform is an easy and certain method of removing the oil.

If in trying these facings in the mouth, or, in fact, during any operation, they should hug the backing closely, a bit of sticky wax applied to the face of the tooth will make the removal extremely easy.

In cementing, it is important to use a good crown and bridge cement, mixed thin.

This should be placed in a thin layer over the back of the tooth and worked down into the pin-holes with a fine instrument.

A small amount of cement should also be placed on each pin of the staple and the facing forced firmly to place.

When Buying a Quantity of Dimelow Detachable Facings

You receive a greater result in the quantity of facings for a given sum of money than with other teeth.

You do not lock up a considerable sum in backings. You make them up as you require them at a minimum cost of both time and material and every laboratory is already equipped with all the necessary tools.

Send a mail order for Dimelows for your next case.

PRICES

Per Tooth - -	.25
108 Teeth -	25.00
228 Teeth - -	50.00
Anterior Staples	.06
Posterior Staples	12

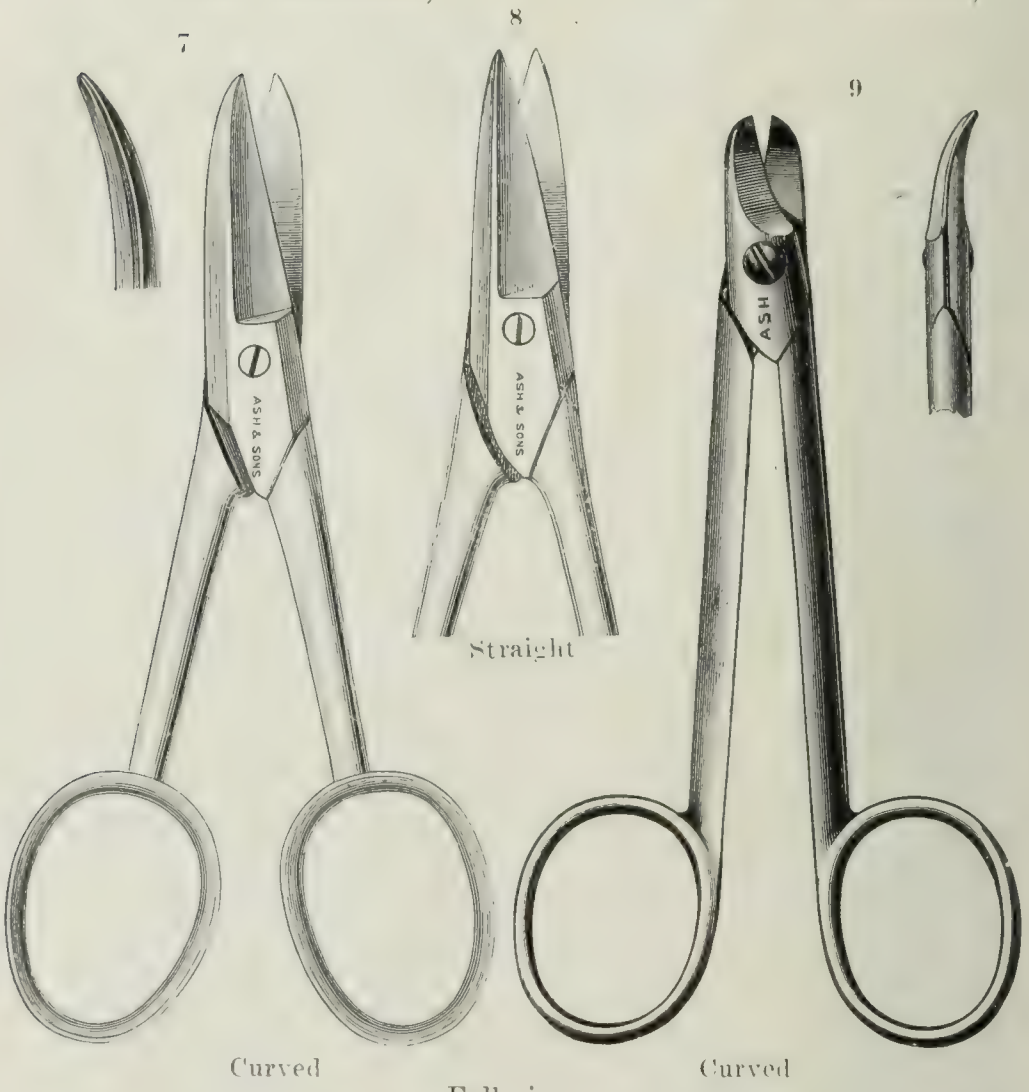
Claudius Ash, Sons & Co., Limited

Improved Plate Scissors

(Mr. Girdwood's)

Crown and Collar Scissors

(Dr. J. H. Beebee's)



Specially adapted for the use of Crown and Bridge Workers.

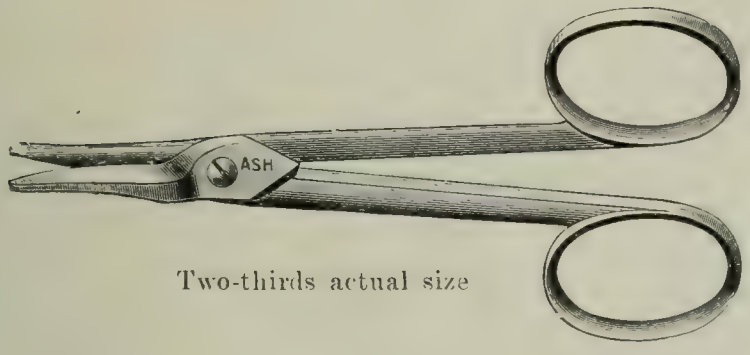
Improved Plate Scissors (Mr. Girdwood's).—These Scissors are more easily handled than small shears, and allow of sharp curves and angles to be readily cut, and Mr. Girdwood finds them strong enough for crown gold, etc.

Fig. 7. Curved Scissors, Nickel-plated.....each $1.25
Fig. 8. Straight Scissors, Nickel-plated.....each .80

Crown and Collar Scissors (Dr. J. H. Beebee's).—Most useful for cutting and trimming gold collars and crowns.

Fig. 9. Curved Scissors, Nickel-plated.....each $1.10

Universal Plate Scissors



Two-thirds actual size



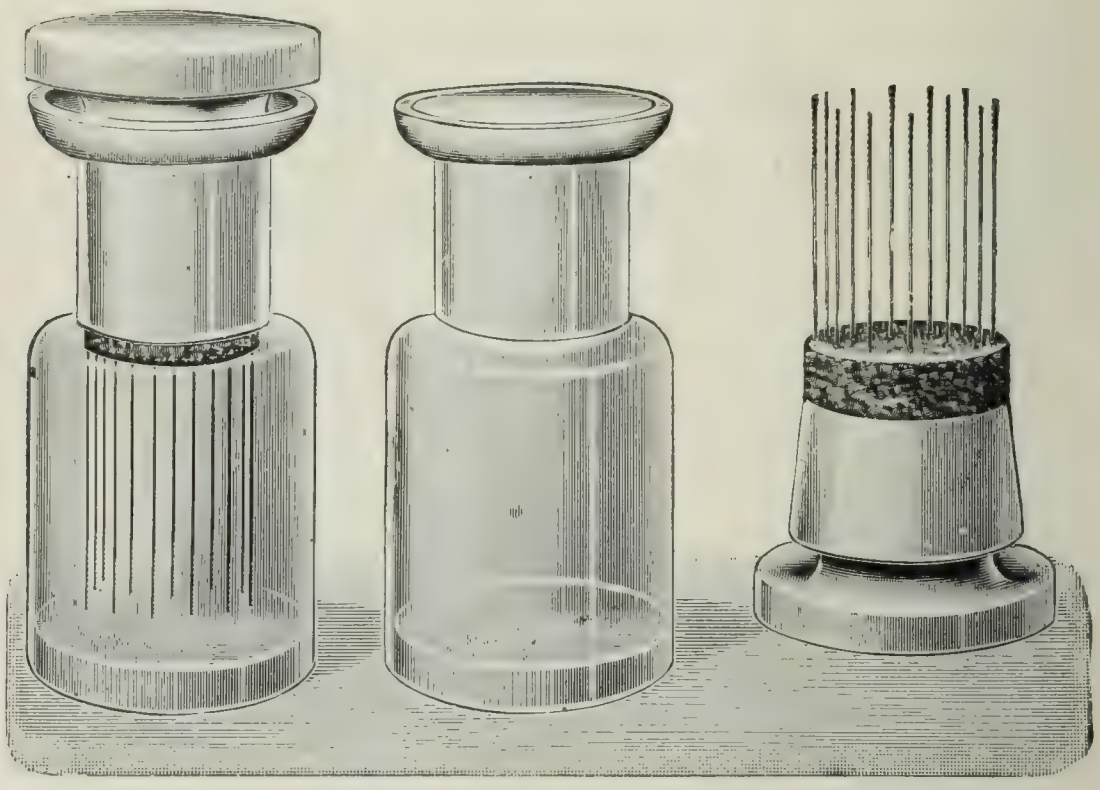
Greatly reduced size

This greatly reduced size illustration gives a very good idea of the power which the operator possesses in cutting metal to any form with the Universal Scissors.

Scissors, 4½ in. long, Nickel-plated - - $1.60

Claudius Ash, Sons & Co., Limited

Bottles for Nerve Instruments



These Bottles are labelled respectively Sterilizing Fluid and Alcohol. There is no better method of keeping Nerve Broaches, and they make a handsome adjunct to your cabinet. Your instruments are always kept in a sterile solution, and if Lysol is used your Broaches will never rust.

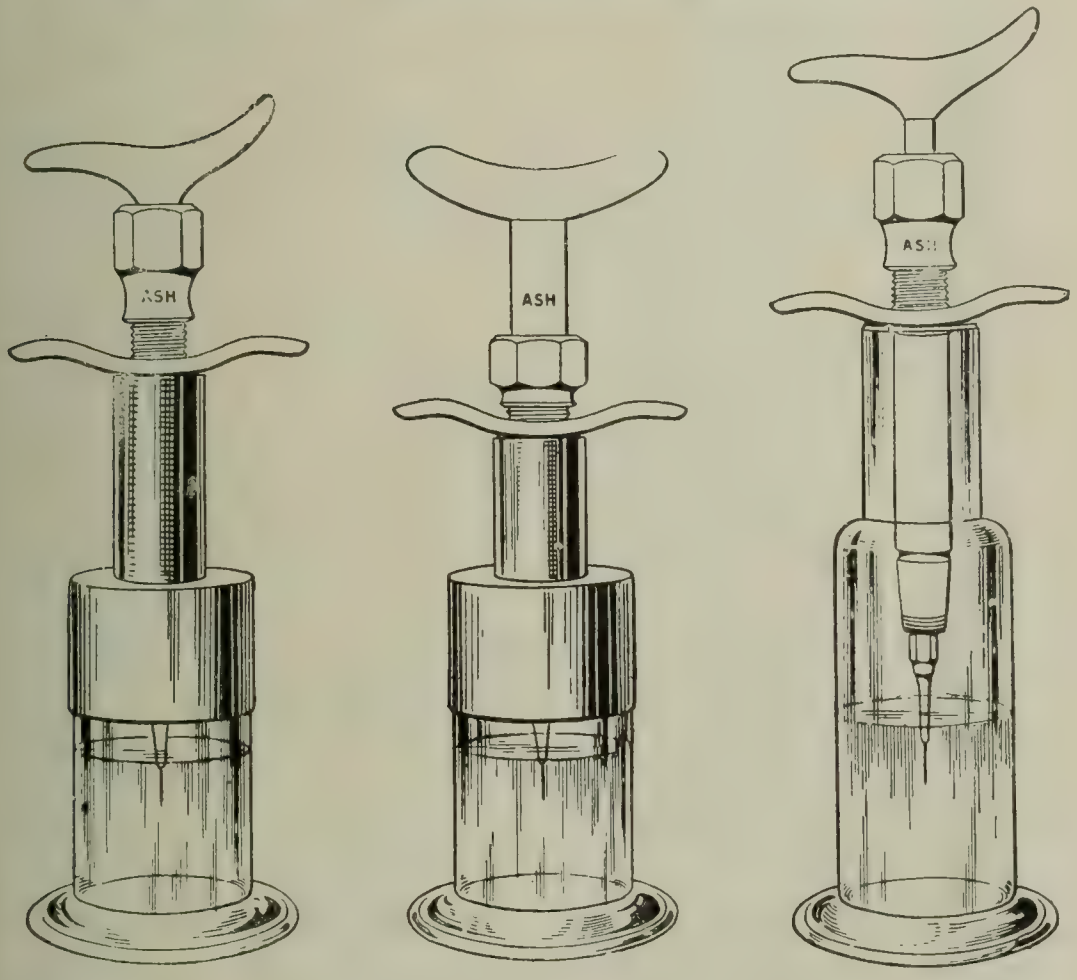
Set of two Bottles in Cardboard Case, 80 Cents.

Claudius Ash, Sons & Co., Limited

Save Your Hypodermic Needles

Nothing aggravates the Dentist much more than to take up his Syringe after his last operation and find it *plugged*. He finds that he has laid it down after using and it has quickly rusted. His time is too valuable to waste drying the needle out. All this annoyance is saved by the

Bardet Syringe Sterilizer



Keep your needle on your Syringe in the Sterilizer immersed in Lysol. Your needle will never rust, is kept in a sterile solution, is always ready to hand and looks well on your table.

In neat Cardboard Boxes for Mailing, 60c. Each.

CLAUDIUS ASH, SONS & CO., Limited



You Need a New Agate Spatula

The Agate Spatula is the most important aid to successful manipulation of all Silicate Cements.

Ash's Agate Instruments were the first on the market, and have always been the best.

Double End Agate Plastic Instrument - -	**$1.10**
Single End Agate Spatula -	**.70**
Double End Agate Spatula with Double Head Burnisher -	**1.50**

Claudius Ash, Sons & Co., Limited

POLITOR

The Great Prophylaxis Powder for Cleaning Patients' Teeth.

Write for Sample and Large List of Eminent Men Using Politor.

One lb. Package - $1.25

W. H. LEAK MFG. CO.

WATERTOWN, N.Y., U.S.A.

Claudius Ash, Sons & Co., Limited

CANADIAN AGENTS

Puscure. What is it ?



It is an Abscess Cure and Root Canal Filling. It cures an abscess for all time. No sore teeth, no come-backs in trouble, no work to do over.

How does it do the work ? Puscure is about twenty times as strong as carbolic acid, is non-poisonous, non-coagulant, non-irritant.

The Secret

Puscure is hygroscopic and its great affinity for alkaline fluids causes it to mix instantly and chemically unite with the fluids in the canal, but more important is, it mixes with the fluids in the *Tubuli*—do you get this remarkable point ? It is the only remedy known to Dentistry that will sterilize the contents of the tubuli. No other known remedy does or can mix with the fluids in the tubuli. If you have never used Puscure, one box will convince you that all the claims made for it are absolutely true—one box will prove it. Puscure is used by dentists in every country in the world and demand increasing. It has not been advertised, then why this constantly increasing demand ? Merit of superior quality. One dentist tells another, that is the story of Puscure.

Price in Canada - $1.75

The Puscure Co., - Louisville, Ky.

SOLE AGENTS IN CANADA

CLAUDIUS ASH, SONS & CO., Limited

E. C. HUME
Dentist

714 The Atherton Building.

Louisville, Ky., June 18, 1914.

To Whom it May Concern:

I have made a series of Radiographs for Dr. Blair which he says were treated with **Puscure**, and as yet I have failed to find an abcess blind or fistulous.

Respectfully,
E. C. HUME, D.D.S.

We are having some hundreds of Radiographs made of teeth in which **Puscure** was used. Cases from three to ten years duration, not one of them show disease of any kind. Absolutely healthy in appearance, not a sore one in the lot. These pictures tell the story.

DR. P. H. WOOD
Dentist

177 Brighton Ave.

Allston, Mass., November 9, 1910.

The Puscure Co.

Dear Sirs:—

Both packages received at nearly the same time, the delay being caused by first package not being fully addressed and I assure you that it was gladly received.

I find after careful use and by closely following directions, that "**Puscure**" is all that you claim for it. I have used it on nearly two hundred cases in the past year, and have recorded every case, and not one has returned to me in which "**Puscure**" was to blame.

I would not be without it in my practice, and I often wonder now how I managed before without it.

Respectfully yours,
P. H. WOOD.

First Letter

DR. P. H. WOOD
Dentist

177 Brighton Ave.

Allston, Mass., November 9, 1913.

The Puscure Co.

Dear Sirs:—

In reply to yours of October 23, I must say that I am still using "**Puscure**" and would not be without it in my office. My percentage of failures are very small which I do not lay to "**Puscure**," I must frankly admit that in some cases it has worked wonders for me.

Respectfully yours,
P. H. WOOD.

P.S.—Kindly mail as soon as possible one package of "**Puscure**" and I will remit check.

P. H. Wood.

Second Letter, after three years' use of "**Puscure.**"

WHERE there is much exhaustion and persistent nausea after anaesthesia, HORLICK'S MALTED MILK, taken hot affords prompt relief, with no unpleasant results following its administration.

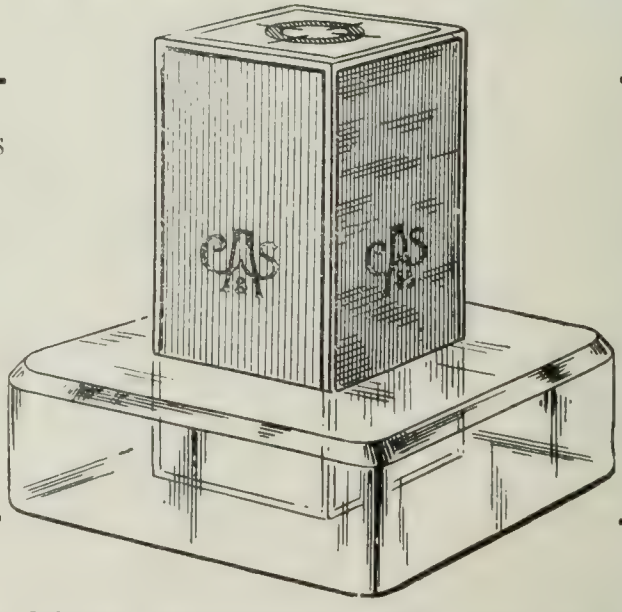
A thorough test invited. Samples for professional and office use will be supplied free of expense, upon request.

Horlick's Malted Milk Company

RACINE, WIS. MONTREAL, CAN.

Ash's Cardboard Cartons

To fit Ash's or other makes of Metal or Glass Bases



Per package of 50, **50 cents**

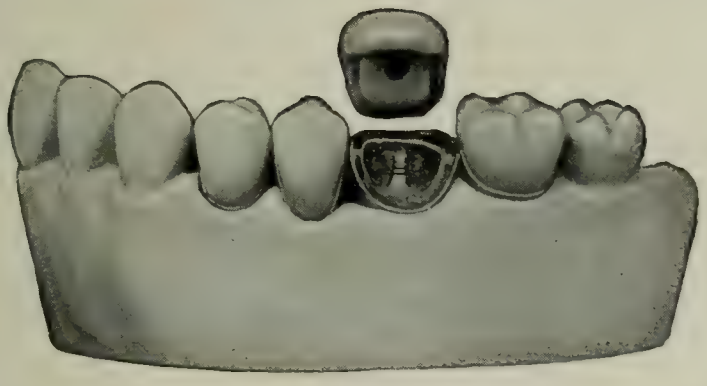
The Glass separately sells for 40 cents

Claudius Ash, Sons & Co., Limited

GOSLEE

Crown and Bridgework

The Standard of Modern Dentistry



THE SIMPLICITY OF ITS TECHNIQUE, THE FULL PORCELAIN CUSP, THE LIFE LIKE APPEARANCE, THE ABSENCE OF GOLD, THE LOWER COST, THE UNUSUAL STRENGTH, THE INTERCHANGEABLE FEATURE, ARE ONLY A FEW OF THE ATTRACTIVE ADVANTAGES, MAKING THE GOSLEE TOOTH SO POPULAR IN THE PRACTICE OF **MODERN DENTISTRY.**

FOR SALE BY LEADING DEALERS
SEND FOR BOOKLETS

CONSOLIDATED DENTAL MFG. CO.

Main Office: 130 Washington Place, New York

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Cleveland, 499 Colonial Arc.
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Specialists in removable and semi-removable bridge work.

Griswold, Morgan, Roach Bennett Bar, Fossume-semi-removable and Gilmore attachments

Porcelain bridge work.

Continuous Gum Work.

All classes of Tube tooth work.

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Chas. L. Daly

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There are pins of teeth on the market which are of German silver, which means a composition of nickel, copper and zinc. If you have used any such you know how the sulphur in the rubber affects the copper in the metal.

But do not confuse Kazan Metal (nickel, pure), with German silver (purely a composition metal), for they are entirely dissimilar in every way.

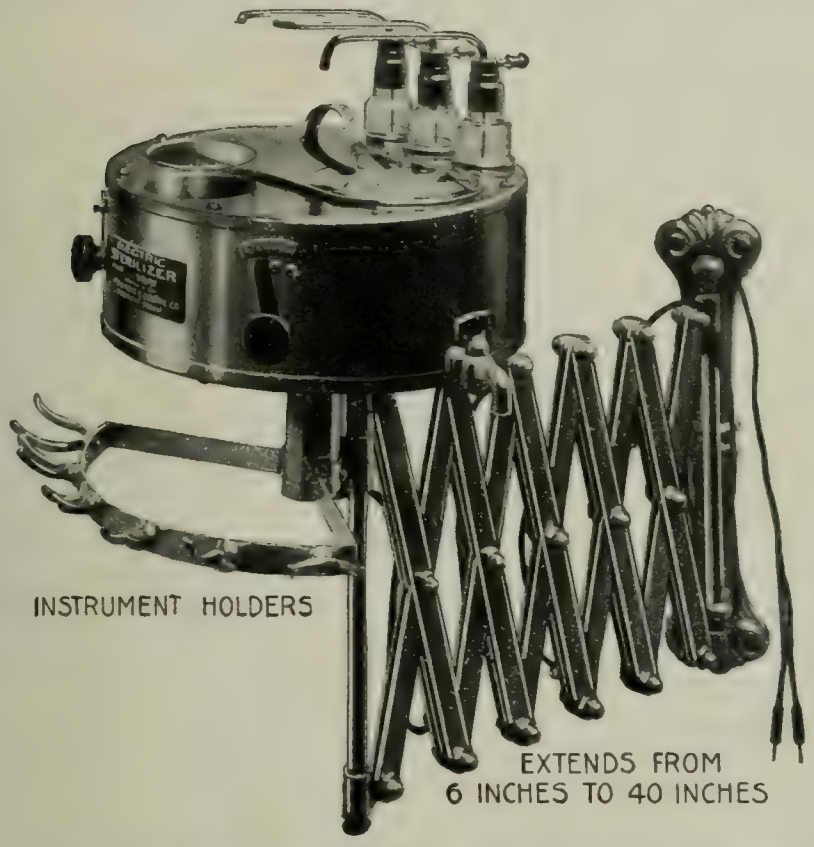
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These rules are few and their application is easy. They represent what the manufacturer knows and what the best dentists have proven in actual practice. Nobody can depart materially from the following method of manipulation and get satisfactory results.

First, lay out all instruments and accessories for mixing and inserting a Synthetic Filling. (Our Synthetic Cabinet containing every requisite is ideal.) See that the slab, spatula and all instruments are scrupulously clean. The spatula must be of agate.

Prepare the cavity, as for a gold filling, with square margins and proper undercuts. Have the tooth isolated, the cavity dry.

If the weather is warm, chill the slab by placing in cool water, then wiping dry. Now mix Synthetic Porcelain to the consistency shown in **Chaulk's Consistency Standard.** (Sent consistency shown in Chaulk's Consistency Standard. (Sent to Synthetic users without charge). Lay your watch beside the slab and time the mix. To make and complete the mix must not take more than a minute and a half; **a minute and a quarter is the preferred time.** If more than a minute and a half is consumed, proper crystallization will be intereferd with. This is very important.

After the mix has been made, place immediately in the cavity sufficient of the mass to fill the undercuts; then introduce a sufficient quantity to fill the whole cavity a trifle to excess, being careful not to imprison any air. Use only ivory, bone or tantalum instruments, scrupulously clean, for inserting the filling.

Immediately draw around the tooth a plain celluloid strip, just slightly coated with cocoa butter, or, where advisable, use a celluloid matrix. Exercise care not to move the strip or matrix during the first stage of setting. Hold stationary in place with slight but positive pressure. Otherwise, the filling may be dislodged or distorted while yet plastic. Let the mass set normally. Keep the strip or matrix in place for about four minutes.

Now carefully remove the strip or matrix and immediately coat the entire filling with cocoa butter. This prevents the water of crystallization from evaporating from the filling.

With the tooth kept isolated, the patient is now permitted to rest for ten to fifteen minutes, (never less than ten, perferably fifteen.) During this interval the cocoa butter serves to exclude air from the filling and to prevent escape of the water of crystallization.

You may now remove the cocoa butter, coat the filling with the varnish we furnish and finish at a subsequent sitting—which gives splendid results—or you may proceed to finish the filling at once.

he Manipulation of De Trey's Synthetic Veteran and the Novice.

The best results are gotten from the use of Chaulk's Celluloid Strips and Disks, slightly coated with cocoa butter. This lubricant protects the filling from exposure to the air, prevents the heating of and damage to the filling and does not inflict unnecessary pain upon the patient.

Before removing rubber dam and dismissing the patient, coat the filling with varnish and advise patient to exercise care in using the tooth for a few hours.

At every stage the generation of heat must be avoided. The use of a hot or a cold air blast is condemned. In polishing and finishing the reduction must be gradual; friction sufficient to cause heat must be avoided. When wax is used to cat the filling, it should be barely melted and applied to the filling with a camel's hair brush or an orange wood stick sharpened to a wedge-shaped end. Metal instruments should never be used for this purpose. The varnish, however, is preferable.

NOTES.—The liquid bottles must be kept securely capped at all times to prevent evaporation of water from the liquid. Keep the mouths of the bottles clean, inside and out.

Do not coat the filling instruments with cocoa butter or any other lubricant. It must not be worked into the plastic filling.

Use the varnish made by us for Synthetic. Never use a varnish that contains alcohol. Large bottles of our varnish may be had at the supply houses, 25 cents each.

Caulk's Cocoa Butter is the best lubricant to use in making Synthetic fillings. It is modified so that it will not melt in the warmest weather. 3 sticks in box. 25 cents.

Caulk's Cocoa Butter Holder is a little device that is handy and that makes for cleanliness. It is adjustable, is hard to turn over and keeps the cocoa butter from soiling the hands, the table or bracket. Price, 50 cents.

These directions contain nothing new, as there has been no change in De Trey's Synthetic Porcelain since it was first introduced and the methods of manipulation are the same; but we have here put in condensed form the few simple rules governing its proper manipulation. They can be easily followed by anyone, and if they are scrupulously observed, the "Synthetic habit" will soon be established and absolute success may be anticipated from every operation.

NOTE.

De Trey's Synthetic has met with such success that some manufacturers, in describing their cements, are now using the word "synthetic" which we were the first to use in connection with a dental filling material. In order to prevent any mistake or substitution and as a further protection to the name DE TREY'S SYNTHETIC PORCELAIN, we have also adopted the registered trade mark.

"SYNTREX"

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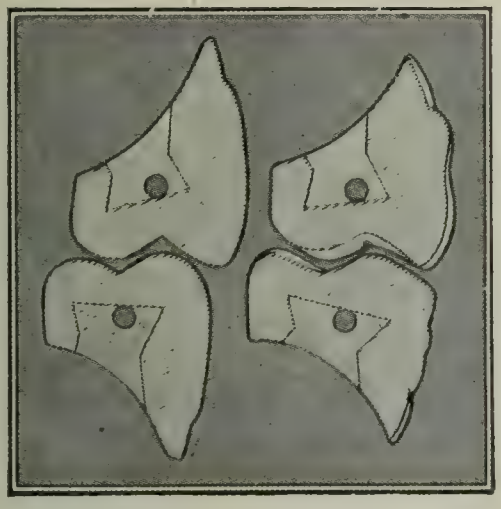
Pyorrhocide may be prescribed through druggists, and can be procured by dentists at quantity rates through dental supply houses.

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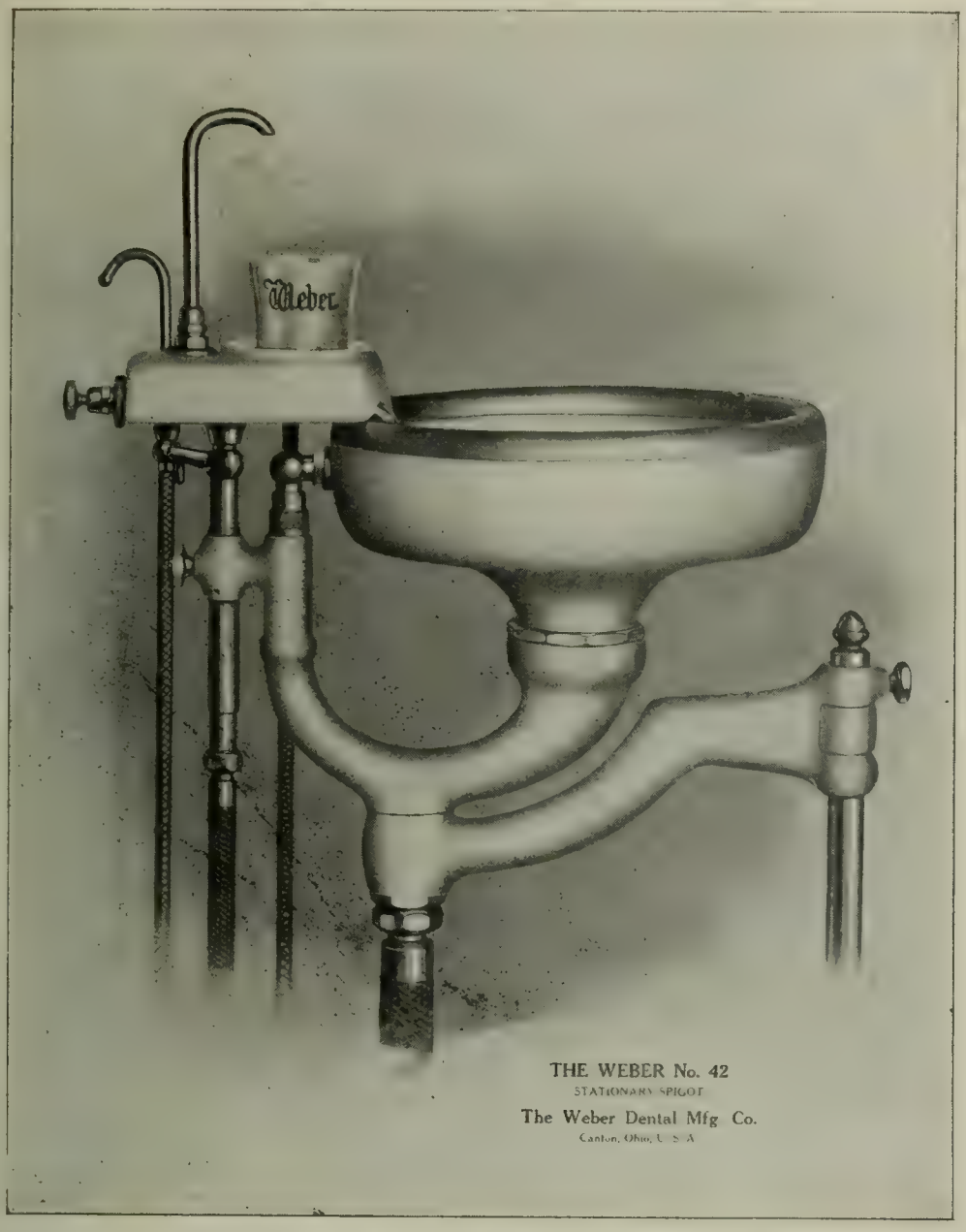
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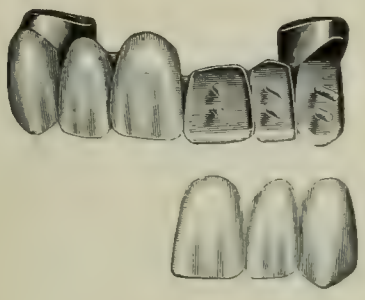
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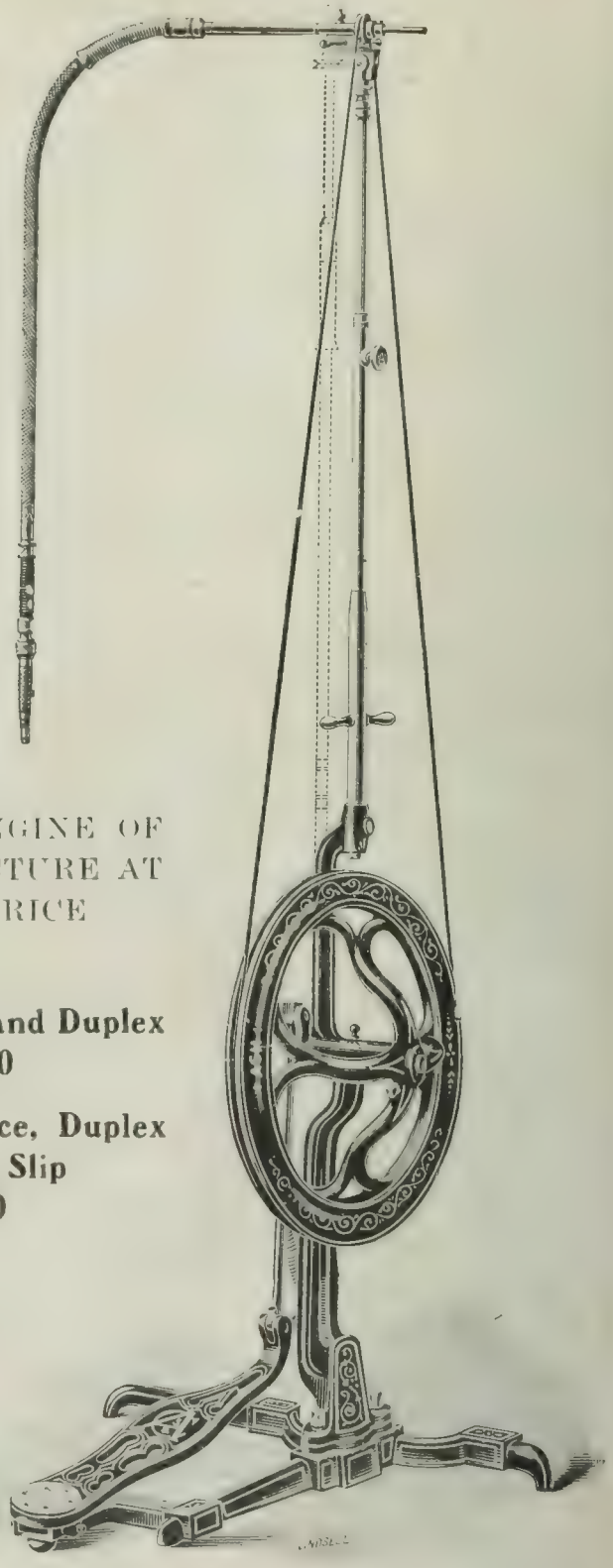
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VOL. 5 No. 4

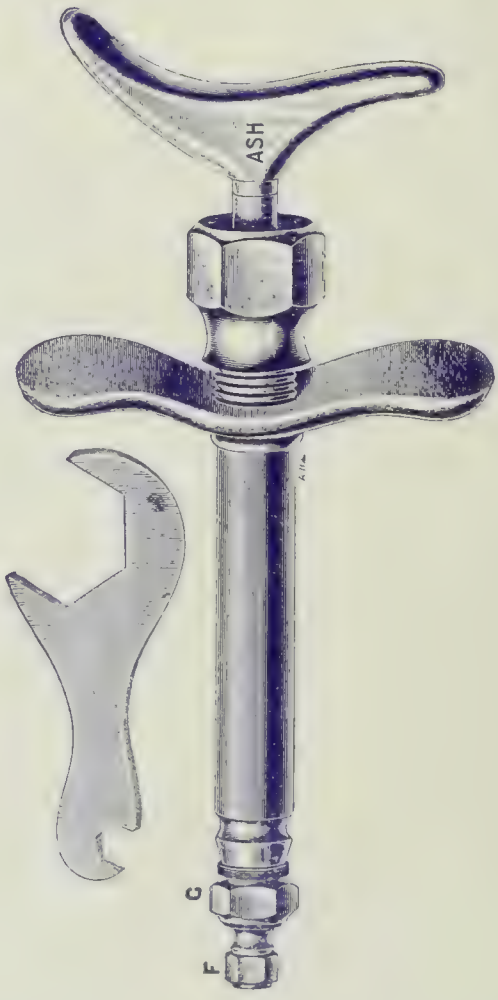
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200 Crowns	20 00
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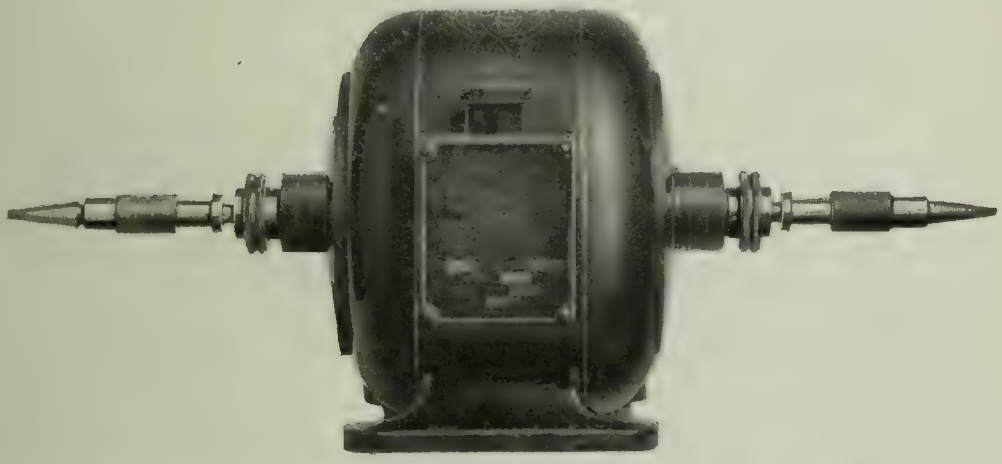
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TORONTO

Ash's Canadian Monthly Circular

VOL. V. TORONTO, OCTOBER 1, 1914 No. 4

THE TREATMENT OF DISEASES OF THE MOUTH, ESPECIALLY OF ALVEOLAR PYORRHOEA, WITH RADIUM.*

By PROF. FRANZ TRAUNER, of Graz.

In dealing with this subject, there is no need to make reference anew to the theories in regard to the causes and cure of pyorrhœa alveolaris, as the literature on this theme is plentiful, and my communication of to-day is to serve only to draw attention to a new therapy.

Alveolar pyorrhœa is a widely spread malady, which leads to the loss of numberless teeth; its therapy is laborious, occupies a great deal of time, is generally painful for the patient, and very often fails to bring about a permanent cure.

The appearance puzzles practitioners; it exhibits distinct signs of an infectious disease, appears to be transmissible or, at least, endogenous in families, generally attacks individuals with constitutional diseases, and teeth found in unfavourable conditions of articulation. Further, it is not clear whether the contemporaneous presence of tartar is casual or a secondary symptom.

The continuous removal of the tartar and the prevention of its reappearance stand in the forefront of therapy, and have led to constant investigation in this direction.

The use of lapis and acetic acid solution, tartar solvent, cuprum sulf. and similar medicaments, massage of the gum, etc., form an aid in the great specific instrumentarium for the destruction of tartar. Notwithstanding this, however, the cases are not at all rare in which the patient in an incredibly short space of time returns with a smeary thick deposit on the teeth. Antiseptic mouth-washes, alkaline muriatic acidities and pastes, fail to produce an effect at this stage.

*Paper read before the Verein Oesterr. Zahnarzt in Vienna. Translated from *der Oesterr.-ungar. Vierteljahrsschrift für Zahnheilkunde.*

As regards tartar, I would only add one remark: in pyorrhœa alveolaris, we never fail to see tartar in a quantity corresponding to the severity of the case (in the most varied forms—as a black incrustation, or a yellow caseous covering, etc.). On the other hand, we often observe the contrary, viz., an incomparably profuse deposit of tartar without real purulency where there is other grave alteration of the teeth in their osseous sockets, such as painfulness, looseness of the teeth and their falling out. It would seem, therefore, that a specific infection of the deposit must take place before purulency, or abscess formation, occurs, which then leads to the more rapid unfavourable course of the disease.

The great results which are achieved with radium in the therapy of gout, of chronic rheumatism, of intestinal diseases, and particularly in new formations in the skin of man, have induced me to undertake a trial with it in alveolar pyorrhœa.

In order to avoid the danger of injury to the mucous membrane of the mouth or the entire organism, only radium emanation from the concentration of a drink cure was used as a mouth-wash, and the action of the rays of the radio-active substance was dispensed with. The German Radium Company "Hannover," in the most friendly way, for this purpose put at my disposal six so-called drink-stones, and a glass vessel with a radio-active floor-plate. The preparation of the watery emanation solution required for rinsing is accomplished in the following manner: Two drink-stones are suspended on a tape or wire in a cylindrical glass of 1 litre capacity, securely closed with a lid, and allowed to stand quietly in a warm place for at least twelve hours. After this period the solution is ready for use. Before the stones are first laid in, they should be covered with hot water; their lateral surfaces must not touch each other in the water. This solution of 1 litre of water contains after from twelve to twenty-four hours about 275 units of emanation, and, if the two drink-stones have been deposited in the cylindrical glass with the radio-active floor, it will be augmented by 100 units more: that is to say, there will be 375 units in all.

Of this emanation the patient receives twice daily a tumblerful—that is, 300 grammes—for rinsing the mouth, and has to carry out the following directions:—Every single mouthful (which must not be too large, so that it has sufficient room) must be whipped energetically with the cheeks and tongue between the teeth and around them, for at least one and a half minutes, in order to drive the emanation out of the water; the ejection of the water from the mouth has to be, as far as possible, in the form of a steady stream. The emanation leaves the liquid within the time indicated, and is deposited upon the mucous membrane of the mouth. In order to exhaust, in this careful manner, a tumblerful, the patient requires from twenty to thirty minutes. After the completed rinsing, the patient must not eat or drink for one or, where pos-

sible, two hours, nor should he converse, so that the gaseous emanation may be retained in the mouth.

I commenced with this very simple treatment, and have achieved surprisingly favourable results. The purulency and the subjective troubles disappear in from two to three days, and then remain in a lessened degree only at those spots where collections of tartar are present. The tartar must be carefully removed, and at subsequent consultations the remainder must be sought for; in this way the disappearance of the purulency is brought about. The treatment of large gum pockets I have endeavoured to shorten —and successfully—by syringing them out with a concentrated emanation of 100 units; I use a 2 $cm.^3$ Pravaz syringe with small nozzle.

The concentration was kindly given me for use by my colleague Dr. v. Planner-Wildinghof from his emanatorium. When no strong emanation was at my disposal, the syringing of the pockets was carried out with ordinary solution, and this has not failed me. We must not go below a concentration of 250 units to 1 litre of water—the solution provided by two drink-stones—for fear of jeopardising the result.

A favourable influence upon the disappearance of the gum pockets could also be induced by the employment of the radioactive substance itself, which the German Radium Company "Hannover" had supplied for this purpose, in the form of wax rods (*bacillis*); a fragment the size of a pin's head is introduced in the pocket, fistula, or abscess, and maintained there for several hours by means of a small cotton-wool plug.

The treatment, therefore, was, in the main, carried out by these three means: the rinsing with emanation, the introduction of radioactive substance, and the careful removal of the tartar.

A few cases of the patients treated by me will best illustrate their course; following upon these we will relate our experience in more detail.

No. 1.—Private employee, forty-two years of age. Has known of his disease for years, and finds it very disagreeable. Experiences a sense of burning and irritation, a bad taste and odour in the mouth, so that he is never without a glass of water with which he rinses his mouth at all times during the day. First, exact treatment of three years for purulency in all the teeth, especially in $\overline{1\ \ 1}$, with tartar solvent, improved the condition; it did not, however, effect a complete cure: a little pus always showed, and was most noticeable in the morning.

On the 13th December, 1913, the patient presented himself with a distinct aggravation of his condition—severe purulency at $\overline{7\ 4\ 4}$, augmentation of the subjective troubles. At $\overline{7}$ bucally and mesially a deep pocket, likewise at $\overline{4}$|, from which several large drops of pus could be expressed one after the other; there

was also on all the teeth some secretion, little tartar. State of masticating apparatus, $\frac{8\ 7\ 6\ 5\ 4\ 3\ 2\ 1\ \ 1\ 2\ 3\ 4\ \ 7\ 8}{7\ \ 5\ 4\ 3\ 2\ 1\ \ 1\ 2\ 3\ 4\ 5\ \ 8}$; patient otherwise healthy. Removal of tartar and two rinsings daily with 300 grammes of emanation water. After three days the purulency had disappeared in all the teeth except $\underline{7}$ |. In the further course of treatment it only appeared at $\underline{4}$ |, where on careful examination a small black tartar concretion was found; after removal of this, the secretion did not recur. At $\underline{7}$ | the gun pocket was syringed out daily with strong solution, and several times a radio-active rod was introduced. On the 17th and 18th January $\underline{7}$ | had become sensitive to heat and cold, for which reason the treatment had to be stopped for one day. On the 23rd January the purulency had entirely disappeared, the gum had become attached to the teeth, the subjective condition caused no complaint. (Re-examination 10th February).

In this case, these two points appear to me to be worthy of note: first, the intermittent temporary recurrent painfulness of the molar to thermal changes; and secondly, the reappearance of the purulency in the bicuspid with the overlooked tartar.

No. 2.—Master baker, forty years of age, who has lost his teeth through alveolar pyorrhœa, all but $\frac{\underline{5}\ \ 3\ 2\ \ |\ \ 2\ 3\ \ \underline{\ }}{7\ \ \underline{\ }\ \ 3\ 2\ 1\ \ 1\ 2\ 3\ \ \underline{5}}$, and is wearing upper and lower dentures. During last year he had been carefully treated, had substantially improved, and it was possible to preserve the teeth, although they were very loose. The purulency, notwithstanding, failed to cease entirely, and during the last few weeks had again increased; the lower teeth were loose.

On the 2nd January the patient called, and I found that secretion was present on all the teeth; there was a deep pocket at $\underline{2}$ |; on the buccal, mesial, and distal surfaces of the teeth there was much tartar and smeary deposit.

For five days daily removal of tartar and rinsing with 600 grammes of emanation; the pocket $\underline{2}$ | was syringed out with strong solution; afterwards only twice a week. On the 17th January, after two weeks, no purulency was to be found; in $\underline{2}$ | healing had resulted and the tooth was fixed tightly in the jaw, as also were all the other teeth.

The case displayed a very favourable course. (Re-examination on the 10th February; all found in order in the mouth). The spotless cleanliness of the teeth appeared to me remarkable; no further deposit was formed, although the patient was especially prone to it.

No. 3.—Justiciary soldier, forty-two years old, with strong purulency at $\frac{7\ 6\quad 3\quad 1\ |\ 1\ 2\quad\quad 6\ 7}{7\quad\quad 3\quad 1\ |\quad\quad 3\ 4\ 5\ 6}$, looseness of the teeth with accompanying pain in $\overline{1}\ |$, where, labially, a deep pocket afforded special room for the secretion. By severing the mucosa at $\overline{1}\ |$ it was found that the alveolus had disappeared up to half the height of the root, and that there was much deposit on the tooth; otherwise the man was healthy.

With careful removal of the tartar and radium rinsings, the general purulency rapidly lessened, and disappeared after a week. At $\overline{1}\ |$, on the whole, it required a four-weekly treatment with strong solution and the introduction of substance in order to destroy the secretion; the tooth again became fixed, and the gum attached; it has since receded only slightly (approximately 1½ mm.). Duration of treatment, from the 2nd to the 31st of January, 1913; the last inspection took place on the 10th February.

No. 4.—Wife of a doctor, age thirty years. Eight years ago she was affected with severe acute stomatitis; since then has had constant unpleasant sensations in the gum, a feeling between burning and irritation, with frequent blister-like eruptions which form painful sores before healing.

Present condition: On the lower molars distinct, and on all the other teeth minute quantities of exudation of secretion upon pressure; very little tartar. Patient in other respects healthy.

On the 5th January, 1913, after removal of tartar, rinsing with emanation twice daily for three days with 300 grammes: the subjective troubles as well as the purulency disappeared, and without further care of the mouth did not recur. (8th February).

In this case the etiological factor appears interesting to me. The disease was a slow one, hence the rapid disappearance of the symptoms.

No. 5.—A doctor, thirty-one years of age, formerly quite healthy. In the summer of 1912 he received the first treatment for severe pyorrhœa, which had especially attacked with violence the lower molar $|\ \overline{6}$; it was the most affected of the teeth, and possessed no antagonists. It was extracted. The treatment, owing to want of time on the part of the patient, was shortly afterwards abandoned.

On the 3rd January, 1913, the patient returned. $\overline{8}\ |$ was without antagonist, elongated, very loose; at $\overline{6}\ |$, on the lingual side, there was a large gum pocket, in which the bifurcation of the tooth, bare of alveolus, was visible, and the roots were found lying free up to the apex. The gingiva was discoloured to a bluish red, swollen, prone to bleeding; the flow of pus was profuse; there

was an abscess open towards the marginal direction. The healing of this tooth stands in the forefront, and was carried out with emanation rinsing, irrigation with strong solution, and rods. On the 24th January, after the secretion had been extremely small in quantity for a week, a distinct decrease of the lingual pocket was found; the tooth itself, therefore, became suddenly sensitive to thermal change and during occlusion; it had become very loose, and in the buccal-marginal direction an abscess had formed. The incision also led from the buccal direction into the bifurcation of the root. Further irrigation by the operator and by the patient produced a rapid disappearance of the objective and subjective symptoms.

On the 3rd February there was no secretion, the buccal incision had healed; in the lingual pocket a penetration into the depths could only be performed to a third of the length of the root, so that there existed a prospect of cure.

On the 8th February the tooth was very little loose, well capable of mastication, and not painful. $\overline{8}|$ had not improved, and had to be extracted. Otherwise there was no purulency in the mouth.

The purulency about the remaining teeth was cured as usual by the removal of the tartar and rinsing.

The appearance of the buccal abscess was interesting as soon as the lingual pocket had been closed, which apparently up till then had afforded an exit for the pus even from the more distant parts.

No. 6.—Cavalry sergeant of the Stud, forty-five years of age, a healthy and strong man. Had been under treatment at the Institute several times in the last few years for severe alveolar pyorrhœa (lapis, tartasol; partial improvement).

On the 7th January I adopted the new treatment for purulency on all the teeth of the upper and lower jaws—removal of the tartar, twice rinsing with 300 grammes of emanation (much tartar).

Between the lower central incisors, in the buccal direction, an abscess the size of a walnut bulged out which exhibited several perforations, and from this abscess, merely through the movement of the lip, a thick stream of light grey pus was emptied. The mucous membrane was converted into a loose bluish discoloured network. This manifold abscess was syringed out with strong emanation solution, and, as the cure proceeded very slowly, the abscess was also treated with the rods (*bacillis*). On the 5th February, or just a month later, it had shrunk to the size of a bean; the fistulas had closed, with the exception of one situated upon the height of the abscess; the secretion was slight. $\overline{1}|\overline{1}$ at the beginning of the treatment were covered up to the apex of

the root with a strong deposit of tartar; they were extremely painful during mastication, and 1 | was so loose that it would have been possible to remove it with the fingers. The two teeth were sticking merely in a comb of soft tissue, and their alveoli were destroyed; at the present moment they are quite satisfactorily fixed. Their falling out is now out of the question.

In this case the rapid ceasing of the pain in the teeth, after three days, was surprising, considering the unfavourable conditions at the commencement. 1 | , for example, on account of its extreme looseness, was bound to the neighbouring tooth with silk, whereby, unfortunately, it was pulled out of its bed and the pains were increased. I had, therefore, to forego the typing up.

I make reference to this case, which originally I had undertaken only as an experiment without any hope of cure, in order to show that success can be achieved with radium treatment alone.

Latterly (only since the 1st February) rods have also been employed, and there is a prospect of the preservation of the teeth. The remaining teeth now appear clean, cared for, and healthy, and the general purulency has disappeared.

No. 7.—Private employee, thirty-two years of age, strong, always healthy, but of pale appearance and too fat for his age and bodily structure. He was affected with severe pyorrhœa, which eighteen months ago had led to the loss of 1 | and 1 |.

Specialized treatment has preserved him from further harm: there is, however, at | 1, distally, a pocket which reaches to half the height of the root, and there has remained a strong deposit of tartar that nothing has been able to overcome. There was bleeding from the gum—that is, from the dental interstices—and a nasty taste in the mouth to varying degrees.

On the 13th December, 1912, the treatment was commenced in the usual manner: the pocket at | 1 was closed through the daily introduction of the radio-active substance, and the formation of the deposit was reduced to a minimum. The gum seam was, however, still present, and was somewhat reddish there, although no pus could be detected. Perhaps this case indicated an after cure with lapis, or rinsings with concentrated permanganate of potash solution and hyperoxide, which, combined, produce a very thorough cleansing of the mouth.

In all the cases treated, I have, so far, employed radium alone, in order to keep the lines of experiment distinct.

No. 8.—Carpenter, twenty-five years of age. Was a patient of the Dermatological Clinic affected with so-called mercurial stomatitis after a lengthy mercury cure; at present there are no luetic symptoms.

The mucous membrane of the whole of the mouth was swollen to a great degree and reddened; the papillæ and the cervical edge were generally covered with dirty grey-coloured sores; the floor below the tongue on both sides was converted into a longish oval ulcer, likewise the mucous membrane of the left ascending maxillary ramus; the teeth were washed by a thin liquid greyish yellow pus, and covered by a thick deposit of tartar. There were violent pains, intensive *foetor ex ore*, and the taking of food was very difficult.

$\overline{|\ 6}$, greatly destroyed by caries, and standing loose in a deep sore, was extracted, the tartar was removed, and rinsings were employed with 300 grammes of emanation four times a day. On the following day the subjective troubles were lessened, and disappeared entirely in three days, as also did the purulency and the bad odour; the sores became purified within five days, and after two employments of lapis were nearly completely epitheleised. The duration of the treatment was from the 7th to the 15th January; the patient was dismissed feeling extremely well.

The disappearance of the disease in the short period of one week was extraordinarily surprising, and could scarcely have been achieved by a medicamentous therapy.

It seems to me to be doubtful that stomatitis, in so neglected a mouth, should be considered as being specifically mercurial. Probably the infection of the mucous membrane is more likely to take place after deterioration through the abuse of mercury (the patient had, outside the clinic, employed 14 quack pastes in rapid succession). This case demonstrates to us that the radium therapy acts most favourably upon the diseases of the mucous membrane of the mouth.

No. 9.—A doctor, sixty years of age, of very powerful constitution, came for treatment, complaining of pains and great loosening of $\overline{2\ 1}\quad 1$, on the 30th January; there was abundant sub-gingival tartar deposit, very little purulency, a reduced number of teeth. $\begin{matrix} 6 & & 3\ 2\ 1 & | & 1\ 2\ 3r\ 4 \\ 5\ 4\ 3\ 2\ 1 & & & & 1\ 2\ 3\ 4\ 5\ 6\ 7 \end{matrix}$ which were all somewhat elongated and loose.

For the moment our chief task was the preservation of the very loose $2\ 1\ |\ 1$; we therefore performed scaling of the tartar, employed rinsing, and also irrigation with a strong solution. On the third day the pains had ceased, the gum had assumed its normal colour and again become attached to the teeth.

The alveolus around $\overline{2\ 1}\ |$ was resorbed, and the teeth were therefore really only held by the gum. In this case it cannot be said that they are fixed in the jaw in the true sense of the word, but, at all events, they are at least still preserved, to the joy of

the patient. We must also take into account the advanced age of the patient as an unfavourable factor. The frenulum labii infer. centrale was inserted like a strong rope between the central incisors at the cervical edge, so that at each movement of the lips a draught upon the teeth was exercised. I therefore severed the frenulum and stitched it very deeply, and from this operation I expected an improvement of the static conditions.

The patient was under treatment for eight days, and was so far restored that he was no longer troubled by the teeth, and was able to use them for mastication.

The series of patients who are at the present moment under treatment and still require to be observed, and such as are already cured (about twenty), will be dealt with later on in an exhaustive paper; although in the main the results will be only a repetition of the histories of the cases mentioned above. In from six months to a year we should be able to speak of durable results. At all events, from the experiments thus far made, the value of radium therapy is rendered sufficiently clear to justify this preliminary paper.

Now, how is the action of the emanation and the radio-active substance to be explained, and what experience has been so far gained in other medical branches?

In the *Handbuch der Radiumbiologie und-therapie, einschliesslich der anderen radioaktiven Elemente* ("Handbook of Radium Biology and Radium Therapy, inclusive of the other radio-active Elements"), issued by Prof. Lazarus, of Berlin, with the collaboration of some distinguished scientists of Europe (published by J. F. Bergmann, Wiesbaden, 1913), there is a summary given of the investigation of radium; the index of the entire literature amounts to over 1,000 works. The therapeutic employment can be exercised in several ways: as the raying method with highly active preparations, as an external application of weakly active substances, by inhalation, injection, and the drinking cure with emanation.

The inductive employment, based upon the physical qualities, which, according to the present position of investigation, we have in the main to conceive, is as follows:—

Every radio-active substance sends out rays and emanation. The rays, which are designated as *a*-, *B*-, and *y*-rays, represent an active physical-electric process, and correspond—the *a*-rays to the canal rays, the *B* to the cathode rays, and the *y* to the X-rays, the so-called Röntgen rays. Moreover, each radio-active substance decays into a gaseous substance, the emanation, which must be taken to be the passive product of it. The decay of the emanation proceeds unceasingly, and finally ends with the formation of a series of secondary radio-active bodies, or the radio-active deposit, which on its part again gives off *a*-, *B*-, *and y*-rays, but no longer any emanation. The substances of secondary sequence are at the

moment designated as radium A-F, and are forming the object of the closest investigation. The decay of the radio-active substance in emanation proceeds extremely slowly; 1 mg. of radium would, it may be estimated, require 2,000 years to become gaseous.

The emanation is the heaviest gas (270 atomic weight); of itself it sends out α-rays, and has the power of lending to a non-radio-active body which may exist within its circle of action, radio-active qualities, *i.e.*, by giving off the rado-active deposit to make this body itself active.

Radium gives off emanation to a higher degree if it is warmed or brought to a solution.

The emanation behaves like a gas; it can be mixed with other gases; it diffuses through capillary tubes, and also through porous substances (with the exception of mica); it can be conducted through tubes and condensed; it has the quality of producing fluorescence; it acts chemically upon the photographic plate; it produces warmth, and possesses the capacity of ionising gases—that is to say, of converting them into conductors of electricity. It decays in approximately four days to half its value, in four weeks entirely; it is expelled from liquids by means of shaking and boiling; radio-active substance likewise loses the power of producing rays for a few days through boiling and by putting it into disinfecting substances, as, for example, alcohol and formaldehyde.

Photograms show that after the disinfection of the radio-active stones—namely, by boiling for half an hour—there occurs partial recuperation after four days, and complete recuperation after eight days; with immersion in formaldehyde and 70 per cent. of alcohol for from three to five hours, partial recuperation after eight days, and complete recuperation after fourteen days.

In order to obtain a reliable, sterile solution containing emanation for surgical purposes, after the sterilization of the insoluble active kernel (for example, a drink-stone of cement), which has been placed in water, we should have to wait a week in order that new emanation might be re-formed after the substance had overcome the weakening.

During uninterrupted employment for several years, or resting quietly, radio-active preparations do not lose in strength, as was demonstrated by means of luminous pictures.

From the qualities of radium, so far mentioned, there result a few measures of conduct for our practical work. For the purpose of producing a solution rich in emanation—that is, for the complete using up of the active body at our service—the body must be introduced into warm water, and we must employ, as far as possible, fresh solutions, always prepared in the same manner, and they must be left undisturbed without being shaken. During decanting into the glasses which are to be employed, unnecessary shaking is

to be avoided; cylindrical vessels with an outflow tube and a stop-cock at the bottom, and likewise with a securely closing lid, are to be recommended. The inner walls of the vessels must not be scrubbed; syringes and irrigators must not be boiled, otherwise they will, at every fresh employment, attract emanation and weaken the solution which is to be used. Only the attachments need be disinfected.

The measurement of the emanation is carried out on the basis of the knowledge that the electric satiating current which the emanation is capable of conducting is measured in a sufficiently large measuring vessel, that its quantity is proportionate, so that the quantity of the emanation can be measured direct in static current-units (ampère).

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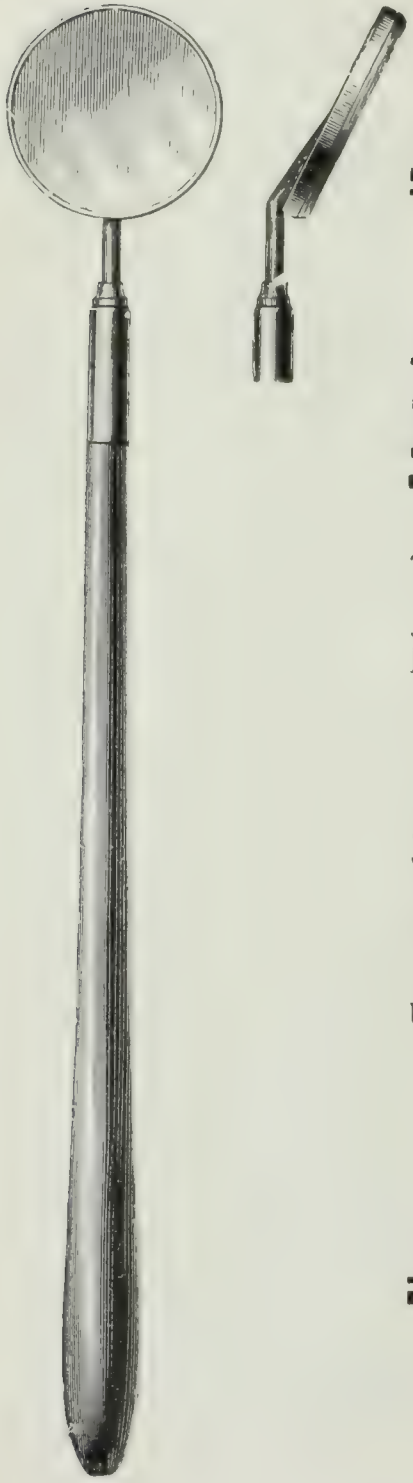
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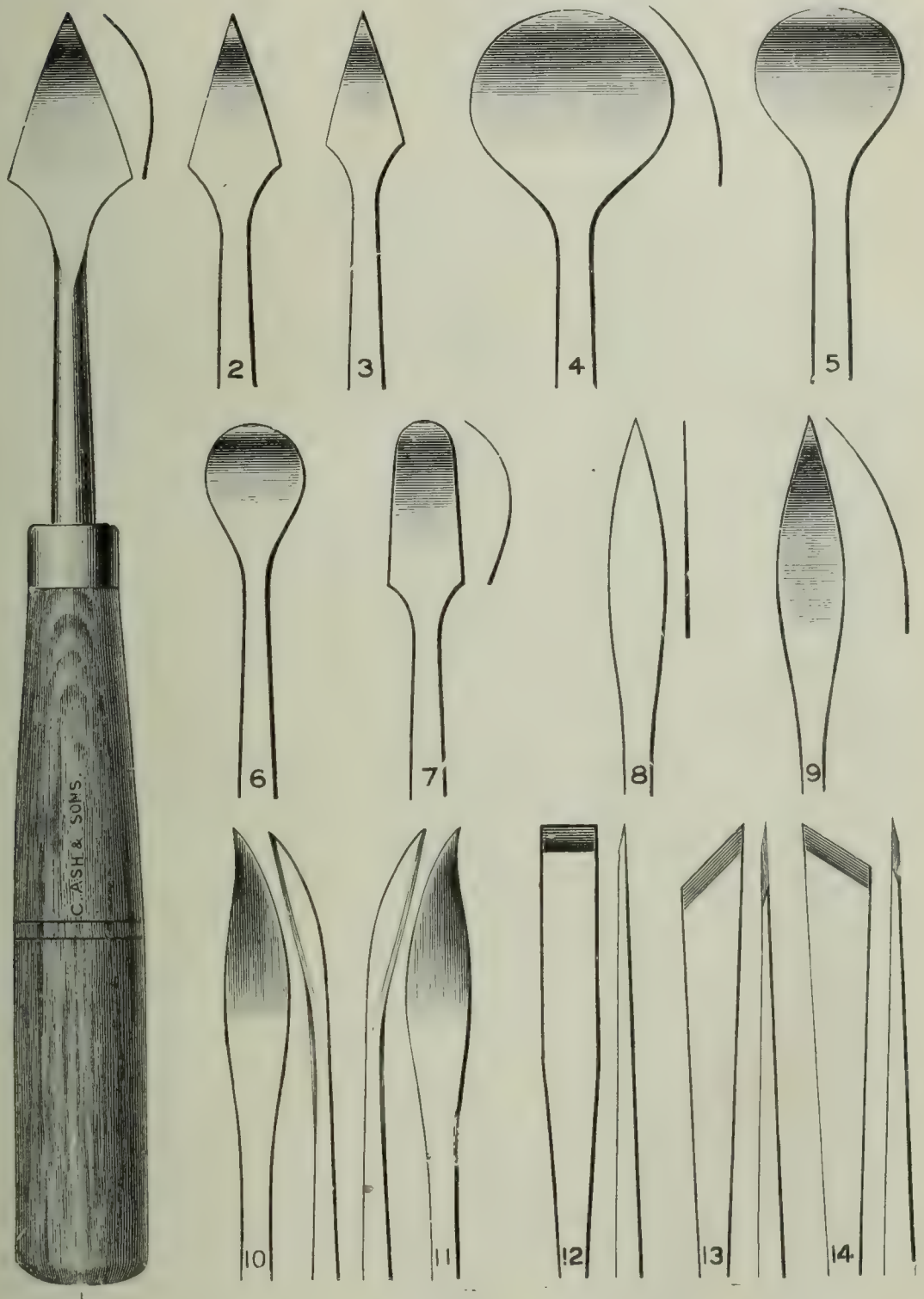
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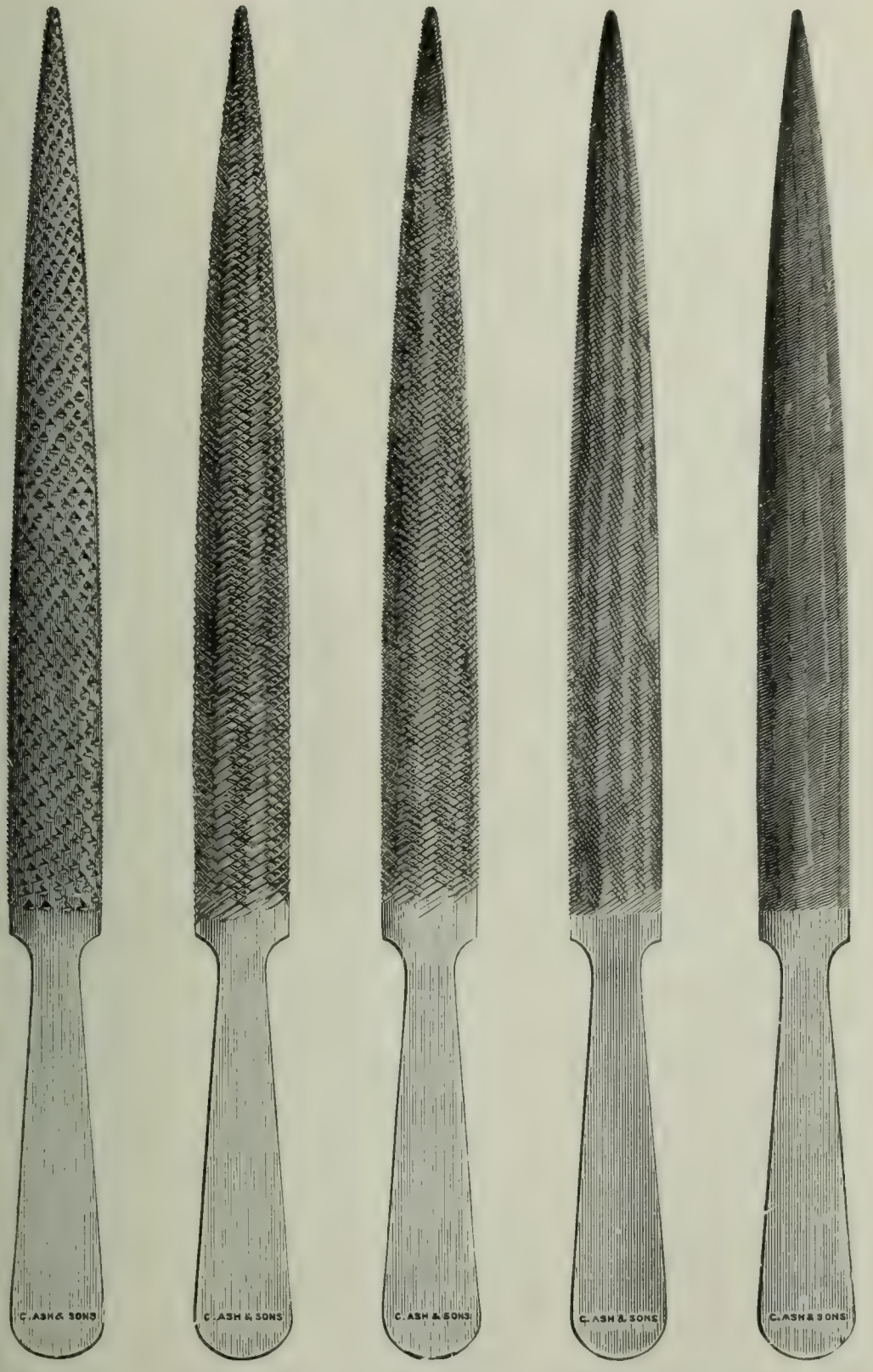
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DR. P. H. WOOD
Dentist

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Allston, Mass., November 9, 1913.

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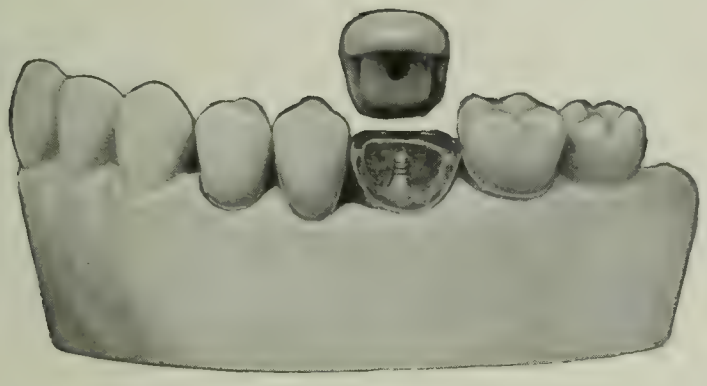
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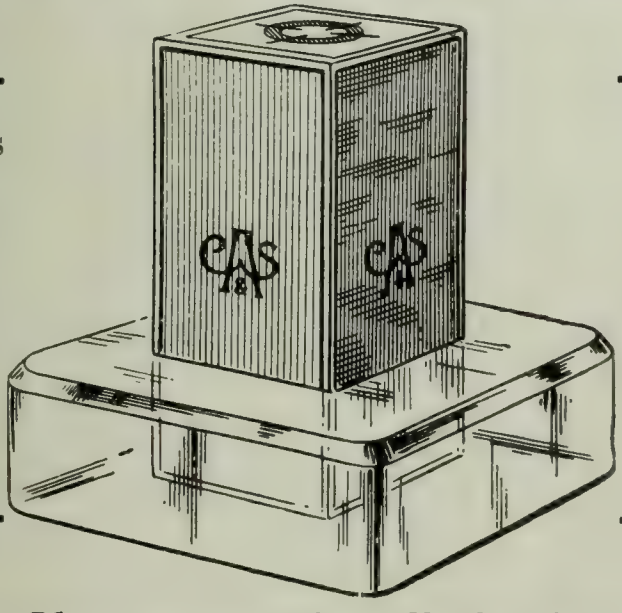
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Per package of 50, **50 cents**

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The gold you use for crowns and the solder you use on bridges are more truly "composition metals" than is the metal of Kazan Teeth.

We use pure nickel wire for Kazan pins, nickel wire imported from Germany, for American nickel is not pure enough. Your gold for crowns at best is but 22/24ths gold, and the solders you use are not that high in gold; the remainder is silver, copper or other metals and you have what is rightly termed "composition metal."

There are pins of teeth on the market which are of German silver, which means a composition of nickel, copper and zinc. If you have used any such you know how the sulphur in the rubber affects the copper in the metal.

But do not confuse Kazan Metal (nickel, pure), with German silver (purely a composition metal), for they are entirely dissimilar in every way.

Nickel does not corrode nor rust; the instruments you use each day are nickel plated to prevent oxidation even when sterilized by steam. So have no fear of Kazan Pins "corroding" or "rusting" and above all,

NEVER THINK OF KAZAN WHEN YOU HEAR OF "COMPOSITION METAL."

JOHNSON & LUND

THE PELTON & CRANE CO'S
Number Five Combination Heater

NEAT CLEAN



PRACTICAL

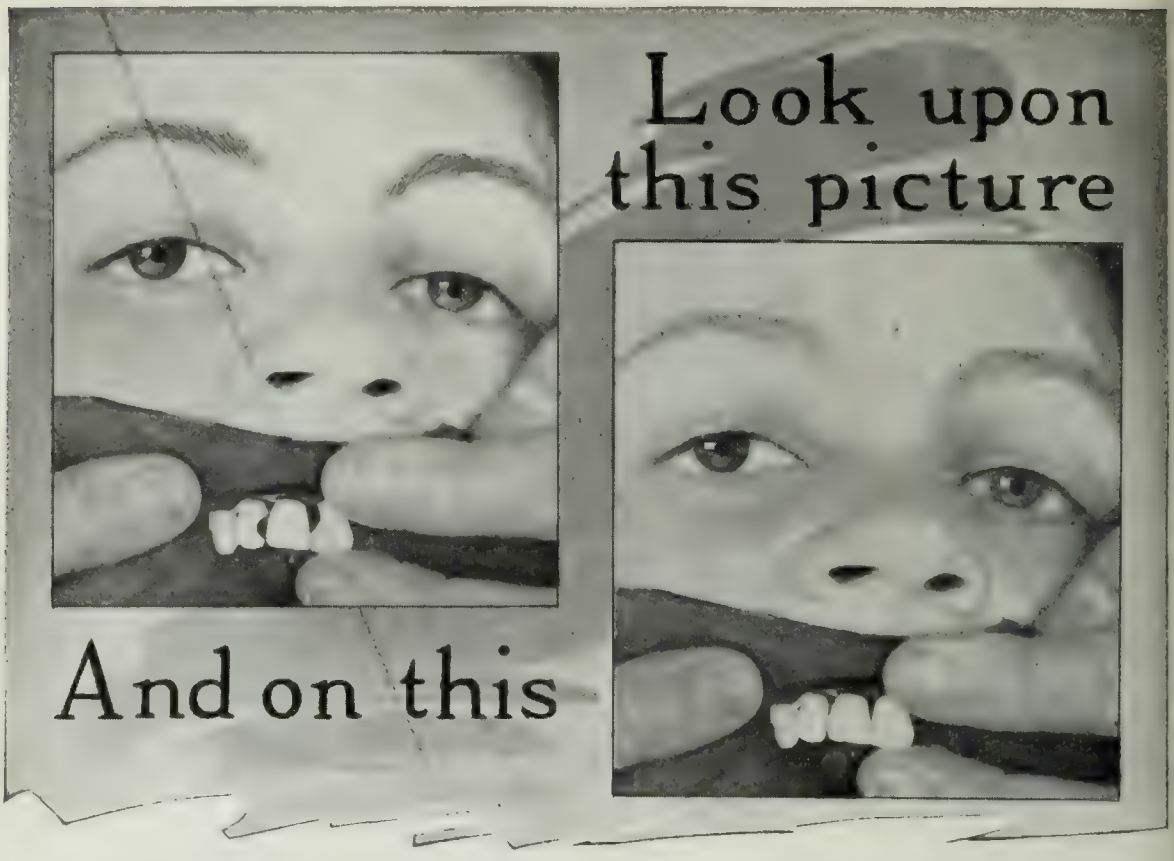
Combination of STERILIZER, SPRAY BOTTLE WARMER and WATER GLASS HEATER. Each controlled by a SEPARATE HEATING UNIT and RHEOSTAT, so that it is not necessary to heat more than the one desired for use at the time. There is NO HEAT WASTED, and tests prove that ONE-HALF THE TIME in heating is saved by this arrangement. The entire heater REVOLVES ON A PIVOT which is mounted on an EXTENSION BRACKET. Handy, isn't it? The instrument holders make a most convenient place to hang the Hot Air Syringe, Cut-off for atomizers, Switch Handles and Switchboard connect ons. Entire outfit as shown, less atomizers :—

Heater Body finished in highly polished nickel, with black or white enameled bracket	$35.00
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THIS YOUNG LADY didn't want conspicuous restorations in her front teeth. Can you blame her?

She wanted those teeth saved so that they would look like teeth and nothing else.

If that couldn't be done she would have rested content with something less pleasing; but since it is being done every day, she wanted it.

Honestly, now, wasn't she entitled to it?

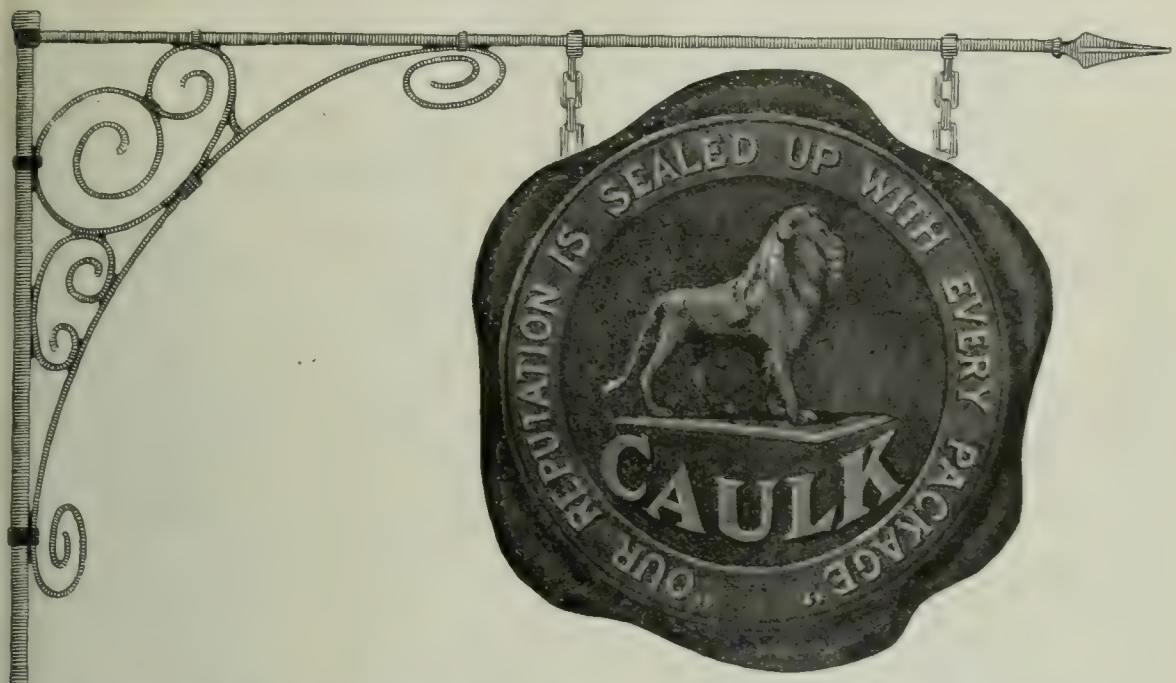
Fortunately, her dentist knew just what to do. He found just one material indicated—

De Trey's Synthetic Porcelain

He filled those teeth in short order and charged the fee to which he was entitled. That was over two years ago, and as those fillings looked then they look now.

That dentist is busy, because, he deserves to be. Some dentists are not busy.

The L. D. Caulk Co.



A SIGN of QUALITY

THE FIRST CAULK SEAL that was ever attached to a package was attached to a package of

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The motto, "Our reputation is sealed up with every package," was adopted for its effect upon the officers of this company and its employees, as much as for its effect upon the profession.

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Even though you do not treat pyorrhea, you can constantly enlarge a desirable clientele by devoting more time to oral prophylaxis.

Prescribe Pyorrhocide

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Copies of ORAL HYGIENE IN MODERN THERAPY and THE PRACTICAL METHOD OF SUCCESSFULLY TREATING PYORRHEA can also be had for the asking.

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N.B.—Ask your supply house about the special sixty day TRIAL OFFER on Dentinol and Pyorrhocide.

2 VERY IMPORTANT FACTS TO BE CONSIDERED When Selecting COMBINATION SETS

The Anteriors should have **Pure Platinum Baked in Pins**—that they **cannot pull out.**

The Diatorics should have a Wedge Shape Recess—that they **cannot become dislodged from the denture.**

JUSTI

True-to-Nature Combination Sets

combine both these important features with "designed from Nature" molds and "life like" shades.

Our new booklet of True-to-Nature molds and explanation of our Simplified Method of Anatomical Articulation is yours for the asking.

If your Dealer cannot supply you, order direct.

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IF YOU WOULD AVOID forming a habit that you will never willingly break off, don't try

Fellowship Alloy

as our experience teaches that if it is once tried it is always used.

FELLOWSHIP
is the original scientifically tested Alloy, and is as good to-day as it was eighteen years ago.

If it could be made any better we would do it, but the great number of prominent dentists who have been using it continuously since it was originated testify that it is the

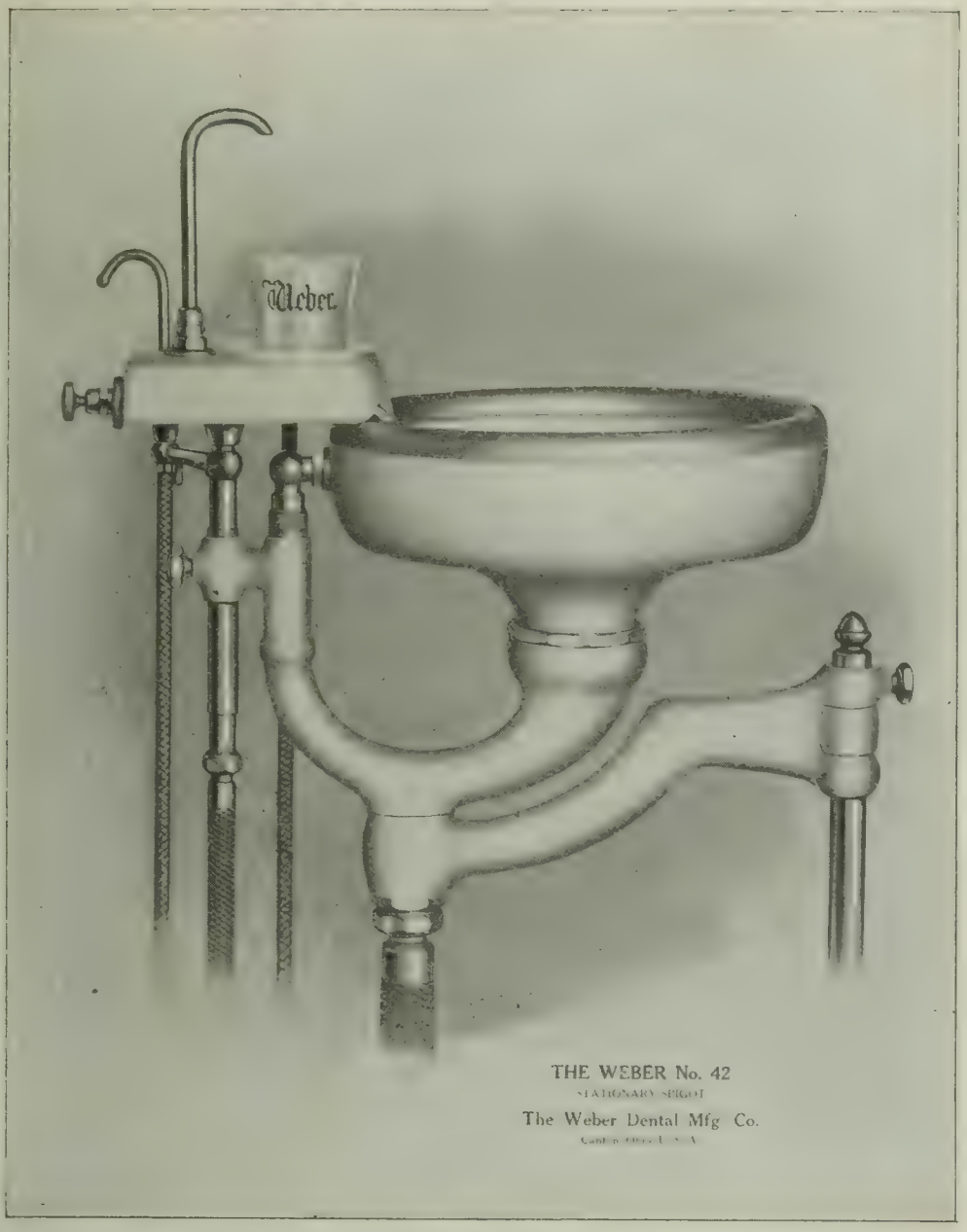
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It's **DOUBLE** the weight and strength of any other spittoon on the market

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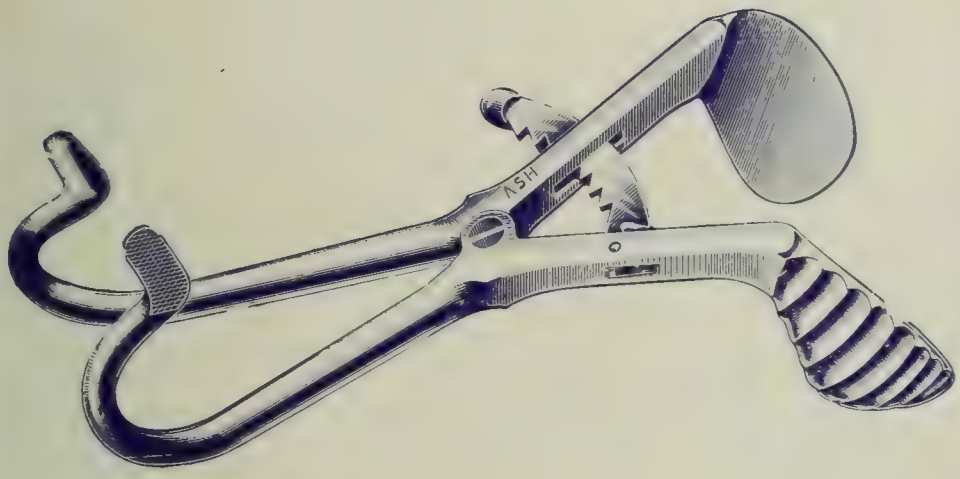
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BUXTON'S GAG



¶ This Gag has long been the premier article of its kind. It is strong and durable. Will retain itself in the mouth and the handles are out of the way of the operator.

¶ In addition to being a perfect Gag, it is most useful as a mouth opener, as the beaks are so constructed that one falls below the other and they can be forced in between the upper and lower teeth.

PRICE - - $4.50

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Ash's "C" Style Cable Engine

A—Sliding Collar by means of which the Arm is released when it is set at rest, as shown by the dotted lines in the illustration.

Engine with No. 7 Handpiece and Flexible Wrist Spring $23.50

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Top part only 13.50

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CLAUDIUS ASH, SONS & CO., Ltd.

VOL. 5 No. 5

ASH'S CANADIAN MONTHLY CIRCULAR

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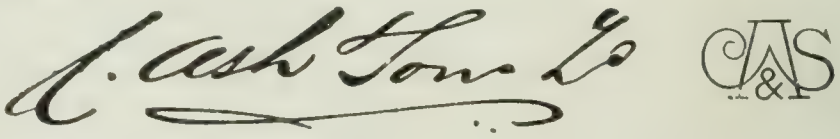


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UNAPPROACHED FOR

Excellence, Purity, Strength, Elasticity and Density.

To mark the genuineness of our Rubbers, the face of every box and envelope which we supply bears this signature and monogram—



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in addition to the name of the Rubber. Always ask for ASH'S when ordering our Dental Rubbers.

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The best results are obtained with Dental Rubber when it is packed in very small pieces.

Extremes of temperature, especially cold, render it tough in time, and it is then not so easy to pack as new Rubber.

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We guarantee full weight in every box or envelope of Rubber of our manufacture, exclusive of the tracing cloth in which it is packed.

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PUSCURE

Cures Abscesses to Stay Cured

¶ It will prevent any trouble of any kind when used as Canal Treatment after nerve extraction.

¶ It is not necessary to use up valuable time and break your back in cleansing fine Canals. Puscure is Hygroscopic and will penetrate to the very end of the root.

Puscure is curing Pyorrhoea in the hands of many Dentists. You can get the proof if you want it.

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TORONTO

Ash's Canadian Monthly Circular

VOL. V. TORONTO, NOVEMBER 1, 1914 No. 5

THE TREATMENT OF DISEASES OF THE MOUTH, ESPECIALLY OF ALVEOLAR PYORRHOEA, WITH RADIUM.*

BY PROF. FRANZ TRAUNER, *of Graz.*

(Concluded from October issue.)

A bactericidal action of the radium emanation has been demonstrated by a number of authors on bac. prodigiosus, pyocyaneus, fluorescence, cholera, anthrax, typhus, mouse-typhus, and diphtheria. By driving radio-active air through typhus-broth-cultures the number of bacteria is reduced by a third; but it does not sterilize. As the emanation only sends out *a*-rays, which penetrate about 2 mm., the action on the depth of nutritive fields is slight. During attempts of sterilization on prodigiosus, it transpired that a momentary action is slight, and that only an action which lasts twenty-four hours has any effect. The necessary dose for sterilizing the agar-surface is 27,000 volts per hour = 345 units pro 1 cm.^{3} of air; the more safely lethal dose is 32,000 volts = 400 units. The bactericidity is, in the first place, a direct action of the *a*-rays, and in the second place an influence of the less active materials A-F, which, like a deposit, becomes attached to all the walls of the vessel (hence also to the culture); an indirect action through ozone formation from the air may be excluded.

In a biological sense, numerous investigators have demonstrated an elective influence upon the cellular elements of the organism, which are rich in lezithine, and qualities are ascribed to the radium in the sense that it acts as an impeder of inflammation, renders the autolytic ferments active, and increases all the metabolic processes. By means of the action of the rays a local hyperæmia is produced. Of these capacities, in conjunction with the bactericidal influence in high concentrations, any healing agent

*Paper read before the Verein Oesterr. Zahnarzt in Vienna. Translated from *der Oester.-ungar. Vierteljahrsschrift für Zahnheilkunde.*

can scarcely merit higher praise. The biological action of the emanation coincides with that of radium itself; it is distinguished, however, by the quantity of rays, which in radium rises to the extent of corroding and destroying organic substance.

For the cure of neoplasms, especially of the skin, only radioactive substance is employed, and by combination with Röntgen rays a further strengthening is produced in a favorable manner.

Radium and mesothorium, although they act differently in the projection of rays, have an action which appears to be identical in essence.

For internal use from 15,000 to 40,000 units, divided into several doses per diem, are employed. General injury only occurs with much higher doses (experimentally up to four millions have been administered). The most powerful effect is achieved by intravenous injection.

The treatment with very high concentrations is at present in the experimental stage; it will perhaps be accompanied with many dangers to man. On the other hand, it is already being emphasized that the healing action often fails because there is not enough radium available, owing to its high price.

For my experiments on alveolar pyorrhœa, the need for stronger emanation solutions has often been very extreme. It is to be hoped that I shall be successful in the near future in receiving an adequate emanation distributor.

In hæmophiles and nervous persons (*sensu stricto*) radium is, at present, considered to be contra-indicated; there appears also to exist an idiosyncrasy against radium: there are cases on record in which extremely slight quantities of radium salts have produced dermatitis.

Of the therapeutic results in a localized region, one case is particularly interesting—a case of purulency of the frontal sinus, with lowered atmospheric pressure, treated with radium emanation admixed with adrenalin vapor, by Dr. Pick, of Charlottenburg. By rinsings with two glasses of water of 700,000 volt-units and inhalation of rarefied air moistened with adrenalin, the secretion from the nose, which had existed on and off for thirteen hours, disappeared completely in five weeks. (*Deutsche Mediz. Wochenschrift*, 1911, No. 25, page 1173.)

In glancing through recent literature, I also discovered a case in the dental field treated by M. Levy, of Berlin, in the journal *Radium in Biologie und Heilkunde** ("Radium in Biology and Medicine"): "Substantial amelioration of a psoriasis of the buccal mucous membrane by means of radium emanation."

In a patient forty-three years of age there appeared, collaterally with a universal psoriasis, a painful swelling of the

*Vol. II, 1912, No. 1, September.

mucous membrane of the mouth, with a formation of whitish grey defined deposits on the gum, purulency, and looseness of the teeth. After a ten days' drink cure, three times per day with 330 units, the symptoms of the disease disappeared; a daily massage completed the cure. (Reference—*Deutsche Zahnärztliche Wochenschrift*, 1913, page 69.) According to the opinion of the author, it was here a question of the favorable influence upon a constitutional disease in its local expressions.

Probably the direct contact of the emanation with the diseased buccal mucous membrane was chiefly responsible for the therapy.

The action of radium emanation on the buccal mucous membrane by the projection of rays, brings significantly to our recollection the experiments of Dobrzyniecki with light therapy (*Wiener Zahnäarztliche Monatschrift*, 1903, p. 287). Similar, but not alike, these two factors may perhaps aid the healing action.

In order to summarize the experiences which I have had with radium treatment, and especially with the radio-litho-cure preparations† of the German Radium Company "Hannover," with the drink-stones and the radio-active rods, I should like to emphasize the rapid removal of the subjective symptoms — toothache, the nasty sensations of smell and taste — and the comparatively speedy stoppage of purulency. The secretion becomes flocculent, friable, not unlike white of an egg. The healing of the gum pockets — which, of course, proceeds more slowly — only causes slight retraction of the gum. The formation of salivary calculus appears to be reduced, as is shown in cases 1, 2, 3, 6, the teeth in which, after four weeks' treatment, exhibited a remarkably clean aspect. The treatment, apart from the operation of scaling on the part of the surgeon, which cannot be omitted in the amelioration of the disease, causes no trouble, and is not painful. The danger of injury to the body, due to the swallowing of liquid during the process of rinsing, is, by comparison with the much stronger drink doses, excluded; local corrosive effects are not exercised by the emanation.

An indication of the effect produced is the venous hyperæmia of the gum which appears in many persons, particularly after the employment of concentrated solutions. On a few occasions I noticed, after rinsings extended over several days, a constant discoloration, approximately such as the gum exhibits during the stage of reduction of intensity of an injection containing adrenalin. In this hyperæmia lies a component of cure, which by a method of resorption expresses itself on the inflammatory processes.

The inter-current sensitiveness of the teeth is probably to be

†They can be obtained from all chemists, from the central branch of the Adler-Apotheke Wilhelm Wolf in Komotau, and from the wholesale druggists, G. Fritz, R. Pezold & Suss A-G, Vienna, 1 Braunerstrasse.

referred to this hyperæmia, which also extends to the pulp. An injury to the depths of the pulp, considering the rapid disappearance of the symptoms, is not to be feared.

Where there is a suspicion of the disease having a constitutional basis, I should allow the patient to drink the emanation. For the present, I am only concerned in studying the pure action of the emanation mouth-wash.

It now only remains to utter a warning against exaggerated claims made for radium treatment, in the sense that we must not demand of it an effect which is outside its influence. If a purulency, which has mostly existed for years, had led to the loss of the alveolar bone—which perhaps, in addition, in an old individual, may partly have had a physiological basis—we cannot expect the *restitutio ad integrum*.

Our other therapeutic measures of a surgical or prosthetic kind, which on the one hand provide for the unimpeded exit of the pus, and on the other hand guard the teeth against unfavorable conditions in the articulation, must be carried out with the same care as usual.

I would draw particular attention to the mobilizing influence upon physiological and abnormal adhesions of the fornix of the mucous membrane (frenula). The employment of argent. nitras fusus, after the disappearance of the purulency, is certainly to be strongly recommended, so that the granulating muco-membraneous pockets may the more expeditiously heal.

In order to anticipate any eventual misunderstanding, in regard to an accidental radio-activity of the drinking water of Graz, I make reference to case 1, in which the patient had for years, on the score of cleanliness (and perhaps in consequence of neurasthenia dentalis), rinsed out his mouth with water, without any favorable result accruing.

In future the investigations and experiments in the mouth will extend to the most divers diseases: I am thinking particularly of infectious affections, such as angina, diphtheria, stomatitis of the most varied kind, of neuralgia—in regard to which Dr. Timmermann, the consultant physician of the Radium Company "Hannover," informs me that good results are said to have been achieved by means of healing compresses.

The work of making experiments on the teeth themselves, in diseases of the pulp—both for devitalization and for the sterilization of infected dead pulps—is still before us, and the most suitable methods can only be discovered by research and comparison.

Up to the present we have at our disposal the introduction of radio-active substance or gaseous emanation with oxygen, and the treatment with watery concentrated radium solutions—*i.e.*, emanation. Every such experiment on the larger circle of patients, in my opinion, will bring interesting points of vantage in radio-

therapy. For the moment those diseases which arise from the formation of strong secretion appear to be the most promising material, and chronic purulency in cavities with hard walls, which set the surgeon great tasks, will, it is to be hoped, be capable of being favorably treated.

There is certainly no special branch in medicine which will not achieve progress in radio-therapy.

The Use of Ash's Crowns in Vulcanite Work



The illustration shown above aptly reproduces the ideal Vulcanite Denture. Notice the nice appearance of the teeth where they come in contact with the tongue. No Vulcanite coming down to the incisal edges of the teeth. You can almost *feel* the clean, pleasant sensation that the teeth give to your tongue. Notice, too, the nice broad surface of the bicuspids and molars, reproducing nature.

In actual use the patient has freer and more articulate speech with this style of denture than with any other. The absence of rubber on the lingual side of the anterior teeth allows the incisors to act as a clear sounding board.

Let us tell you more about these teeth on the next few pages.

NOTE.—Ash Dowel Crowns are the only Crowns that can be successfully used in *Vulcanite work*.

All Porcelain Teeth in Vulcanite Dentures.

Mr. Theodore Phillips of London says: "I may state that for some time past I have been using Ash's Dowel Crowns and their Non-Platinum Tube Teeth with great satisfaction in the construction of vulcanite dentures, and these dentures have been worn by patients with a feeling of personal comfort and pleasure such as is not experienced in the wearing of the ordinary vulcanite dentures.

"The features of excellence which appeal to me in these dentures are these:

"1. The extra room which is gained in the mouth for the free action of the tongue, owing to the vulcanite not being carried so high up the teeth as is usual with pin teeth;

"2. The clean and pleasant feeling which the patient experiences through the contact of the tongue with porcelain all round the arch;

"3. The very natural appearance of the teeth owing to the lingual surfaces not being backed with vulcanite;

"4. The pleasing shapes of the teeth and their delightful translucency;

"5. The open cleansing spaces which they present, no matter how closely or irregularly the bases may be set together;

"6. The bulbous formation of the teeth which gives a restorative fulness to the lips and cheeks, an artistic feature of great value;

"7. The way in which they lend themselves to the irregularity of setting-up, which conceals artificiality;

"8. The strength of the Non-Platinum Tube Teeth, and their adaptability in the bicuspid and molar regions; they require very little or no grinding for the average vulcanite case, and I consider them the strongest and densest teeth in existence for vulcanite work;

"9. The value of these teeth in repairs; it is so great that any tooth in a denture can be easily replaced should it be broken by any chance."

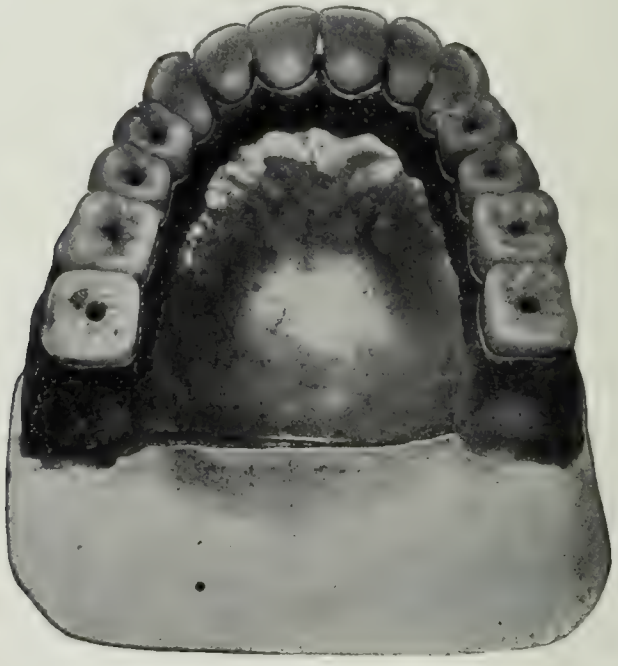
METHOD OF WORKING.

THE BASE-PLATE.—To prepare the base-plate for this method of working, a tin die is cast in sand from the plaster of Paris model. On this tin die a soft metal base-plate of the thickness of the required vulcanite plate is swaged, in Ash's Rubber Block Swager, and fitted to the plaster model. The bite is then taken in wax on the soft metal base-plate.

This admits of a correct bite being obtained, since the soft metal does not alter in shape like a composition base-plate is apt to do.

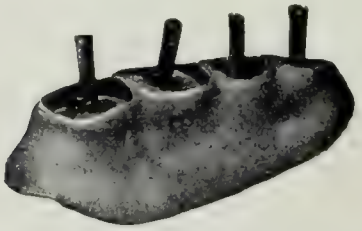
The models are then articulated, the wax blocks are removed from the soft metal base-plate, and the teeth are mounted on it with wax.

FIG. 1.



Case set up in Wax on Soft Metal Base-Plate.

FIG. 2.

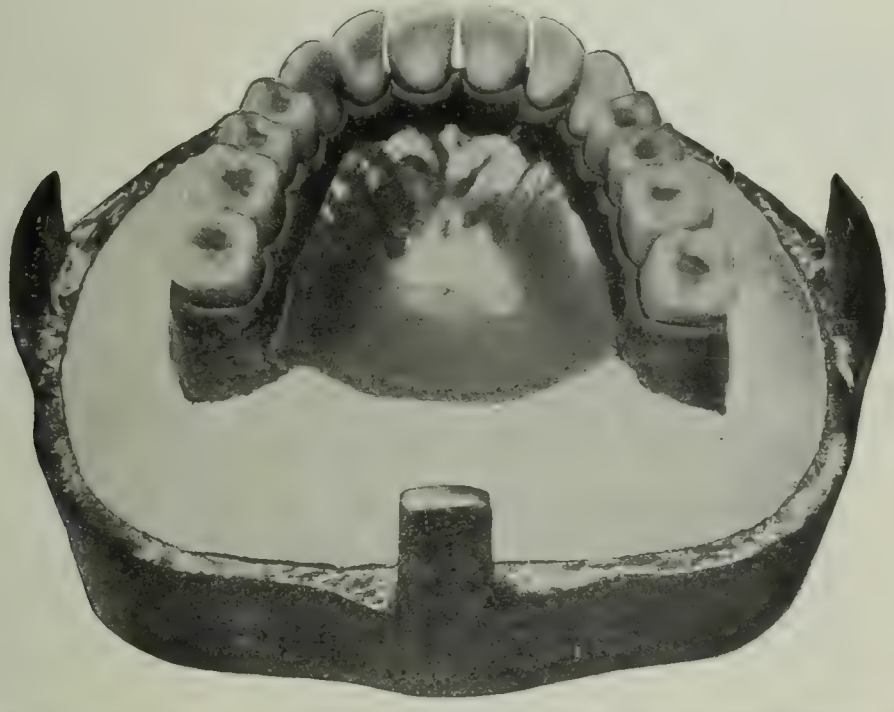


Piece of Vulcanite with posts which shows the sockets in which the teeth sit in the finished denture.

WAXING-UP.—In waxing-up the teeth on the soft metal base-plate. it is most important to bring the wax up to within a sixteenth of an inch above the bases of the teeth all round, as shown in Fig. 1. This arrangement yields a socket for each tooth, as shown by the spaces in Fig. 2, in which a snug fit is obtained when the case is vulcanized. It is very necessary to fill up the tubes in the non-platinum tube teeth with wax, as shown in Fig. 3, to prevent the plaster running into them when the case is flasked.

FLASKING.—The case is sunk, teeth upwards, in the bottom half of the flask, with all the teeth and wax exposed, as illustrated in Fig. 3.

FIG. 3.



Soft Metal Base-Plate on Model with Dowel Crowns and Non-Platinum Tube Teeth waxed up and embedded in lower half of flask, with the teeth upwards and the tubes filled with wax.

Before pouring the plaster into the top half of the flask, it is essential that the plaster—the plaster only—in the bottom half of the flask be oiled, to prevent any adhesion when the two halves are parted.

The plaster is then poured in the top half of the flask, the two halves are fitted together and closed down in the flask press. When

the plaster has thoroughly set, the flask is slightly warmed through, before the two halves are parted. Particular care is taken not to overheat the flask, as the wax is liable to be absorbed by the plaster if overheating takes place.

FIG. 4.

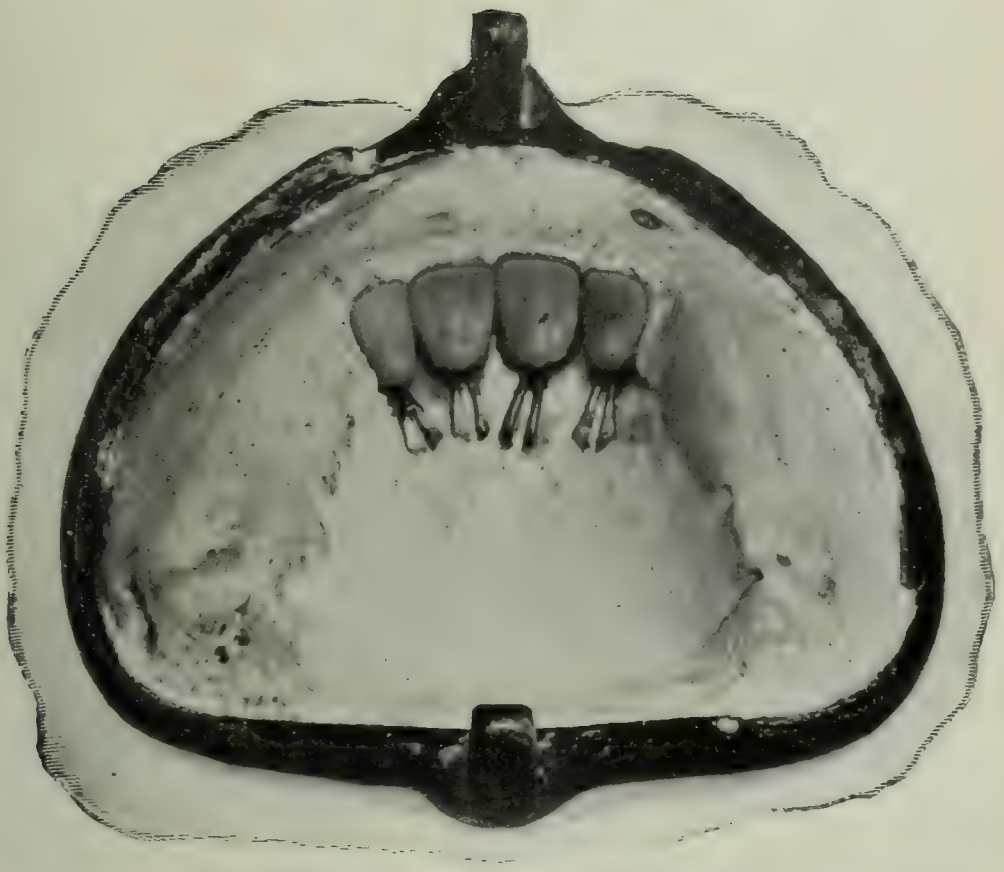


Teeth embedded in upper half of flask after the wax has been scalded out, basal surfaces upwards.

On the flask being parted, the case should come away in the top half of the flask.

The wax is then boiled out and the soft metal base-plate is removed, as shown in Fig. 4. The posts or tags are then cut to the proper length and fitted to the teeth.

FIG. 5.



Vulcan Tag-Posts in position in Flask.

FIG. 6.



A B



C

A—Ash's Aluminum Alloy Post roughened.
B—Vulcan Tag-Post. C.—Vulcan Tag-Posts in Crowns.

Posts.—After numerous experiments and comparative tests with different kinds of posts, we find that the most suitable for dowel crowns and non-platinum tubes which are sunk in the rubber as shown in Fig. 2, is Ash's Aluminum Alloy—A, Fig. 6—which is specially roughened to give the rubber a good hold.

For use in partial cases, with isolated crowns or tubes, and with crowns or tubes which are let down on the gum, the Vulcan Tag-Post—B, Fig. 6—is the best; it is very thin, stiff and unbreakable.

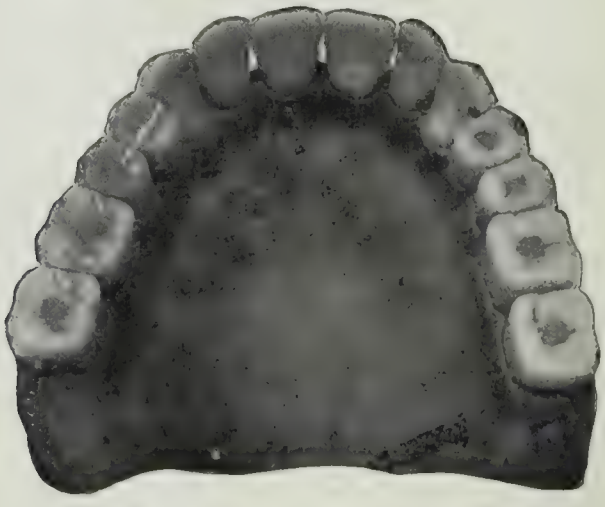
Before the posts are fitted the half of the flask which contains the teeth is heated, small pieces of the rubber for base are packed into the holes of the crowns or tubes, and the posts are pressed into this rubber. This ensures the posts being covered with rubber.

The holes in the crowns and tubes being roughened as well as the posts, absolute contact is secured, and no cementing-on is necessary.

The palate and buccal surfaces are then packed with small pieces of rubber and the flask is closed in readiness for vulcanizing.

Vulcanizing.—The case is vulcanized, according to the directions generally given for vulcanizing, namely, at 315° Fahrenheit for 75 minutes, after the temperature has been very gradually raised to this point. In accordance with the most recent recommendations the thermometer and gauge are used together.

Fig. 7.



An upper finished Denture.

Posts for Vulcanite Work

ASH'S ALUMINUM ALLOY POST.

The great advantage of this post is that it does not oxidize during the vulcanizing process and it does not discolor in the mouth.

It is made from stiff aluminum alloy wire of just the right thickness for the rubber to run all round it.

It is an advantage to pack a tiny piece of white rubber down the hole of each Non-Platinum Tube Tooth, before packing the case, as it looks better on the crown than brown or red rubber.

THE VULCAN TAG-POST (B).

For Dowel Crowns which are let down on to the gum the Vulcan Tag-Post is indispensable; it is very thin, stiff and unbreakable.

For use in partial cases the Vulcan Tag-Post is the most suitable.

Isolated Crowns or Tubes can be used upon a denture with every success when the Vulcan Tag-Post is employed.

Ash's Mineral Facings

FOR DENTAL REPAIRS

Made in the principal patterns and sizes of our Flat Pin Teeth.

The three sizes of our Mineral Facings, here illustrated, are sufficient to show the distinctive feature to which we wish to draw attention, viz., the oval cavity in the back of each.

They can be used for repairing nearly every kind; they are easily applied, exceedingly durable, and can be quickly fitted—it does not take longer than from ten to fifteen minutes to fit one.

They are invaluable for repairs to Bridges, and in all cases of Plate and Crown Work in which a flat tooth has to be replaced.

The oval cavity at the back of each facing corresponds the positions of the pins in our Flat Pin Teeth. They do not require backing, but can be applied to the backing of fractured or broken teeth when the broken portions of mineral have been removed from the backings.



83



71



14

DIRECTIONS FOR USE.

Chip away the remains of the broken tooth from around the pins in the backing, and roughen the backing with a suitable instrument or tool.

Make a thin mix of Ash's Inlay and Crown Cement, or other suitable Oxyphosphate cement, paint both the tooth backing and the new facing with a thin layer of it, press the facing firmly on the backing and keep it under pressure until the cement has thoroughly set.

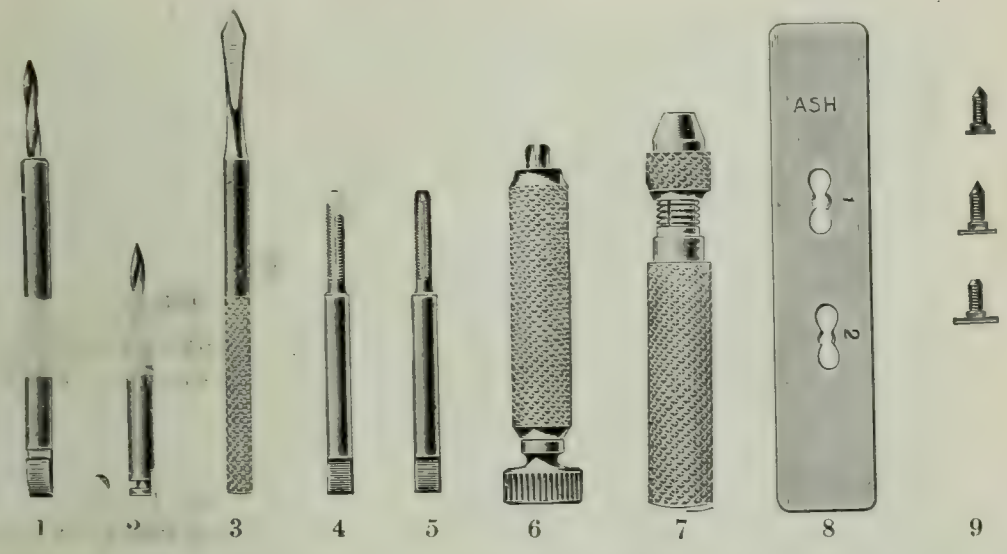
Important Note.

On no account must any of the Silicate Translucent Cements be used for attaching our Mineral Facings to teeth backings, etc., because they are not sufficiently adhesive for the purpose.

Ash's Mineral Facings.....each $ .18

Ash's Repair Facing Outfit

Suggested by MR. H. J. CORIN, L.D.S. Eng.



Figs. 1 and 2, Twist Drills for Straight and Right Angle for drilling hole in

Fig. 3, Countersinking Tool for removing burred edge and countersinking the hole.

Figs. 4 and 5, Screw Taps, large and small.

Fig. 6, Holder for carrying Gold Stud and screwing it into position.

Fig. 7, Holder for carrying small and large Screw Taps, Figs. 4 and 5.

Fig. 8, Screw Plate for the Dentist's use in making his own Gold Studs, should he desire to do so.

Fig. 9, Small, medium, and large Gold Studs.

DIRECTIONS FOR USE:

In the event of a tooth breaking off a bridge or a plate and bringing away with it one of the pins, leaving the other standing in the backing, cut off the standing pin, grind the backing flat with a small carborundum point, drill a hole in the centre of the backing, remove the burred edge formed by the drill, with the countersinking tool, tap the hole with the small tap (Fig. 5), follow on with the large tap (Fig. 4); again clear away the burred edge with the countersinking tool, fix the stud selected in holder (Fig. 6), and screw it into position right up to the shoulder. The case is now ready for the Repair Facing to be cemented on the stud.

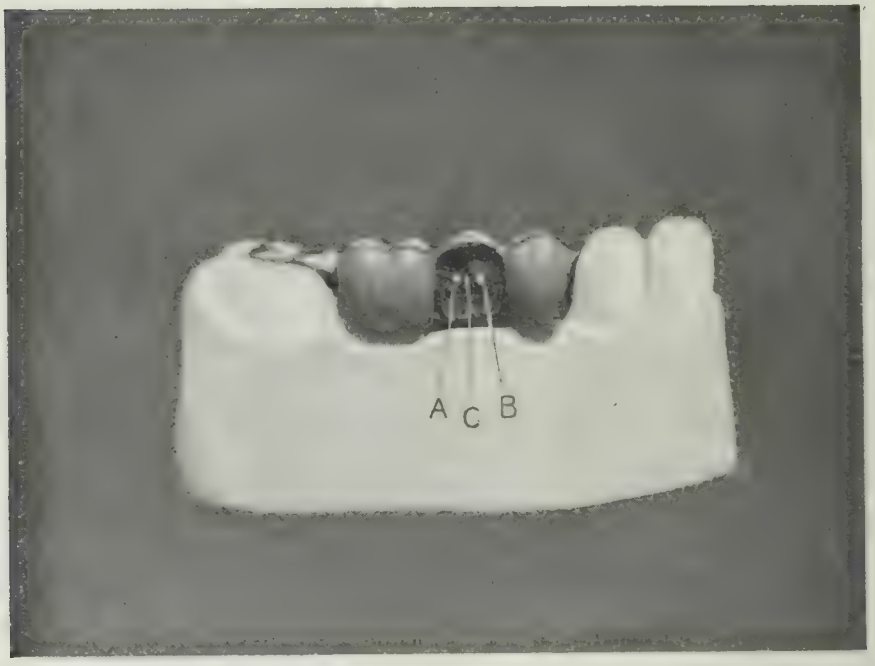
To cement a Repair Facing on the Stud.—Select a Repair Facing of the same size as the broken-off tooth, remove all traces of wax from it, thoroughly cleanse it and the backing with chloroform or pure alcohol; mix C.A.S. Cement or Ash's Inlay and Crown Cement to a thin creamy consistency, smear the backing and the back of the Facing with it, also fill up the undercuts in the oval cavity of the Facing, press the Facing to place, hold it firmly in position for four or five minutes, then trim away excess of cement and coat the exposed edge with Ash's Varnish.

NOTES.

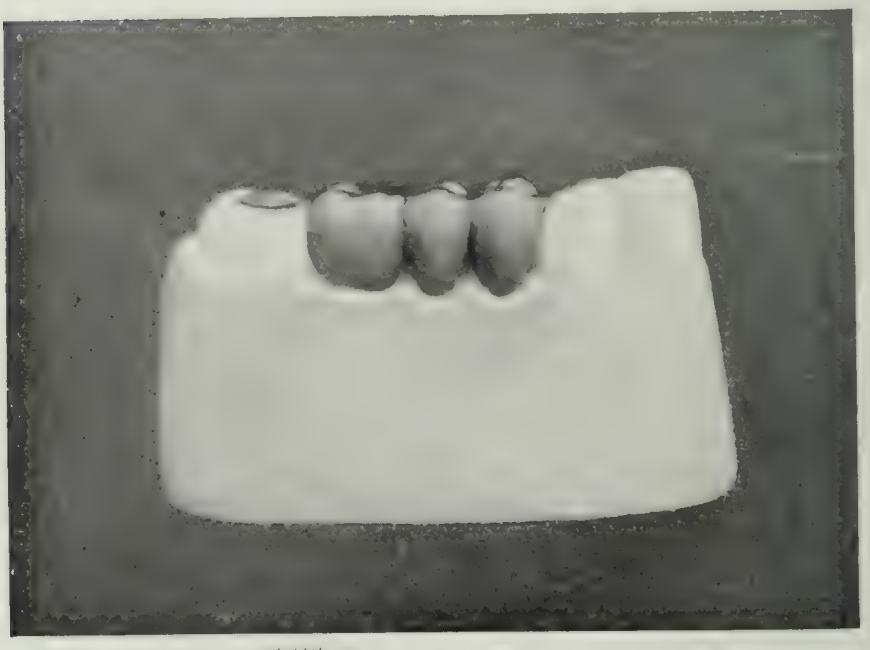
1. The method described above is applicable when both pins come away with the tooth.

2. Should both pins be left standing, in the space left by a broken-off tooth, a Repair Facing can be cemented on them.

Ash's Repair Facing Outfit—*Continued*

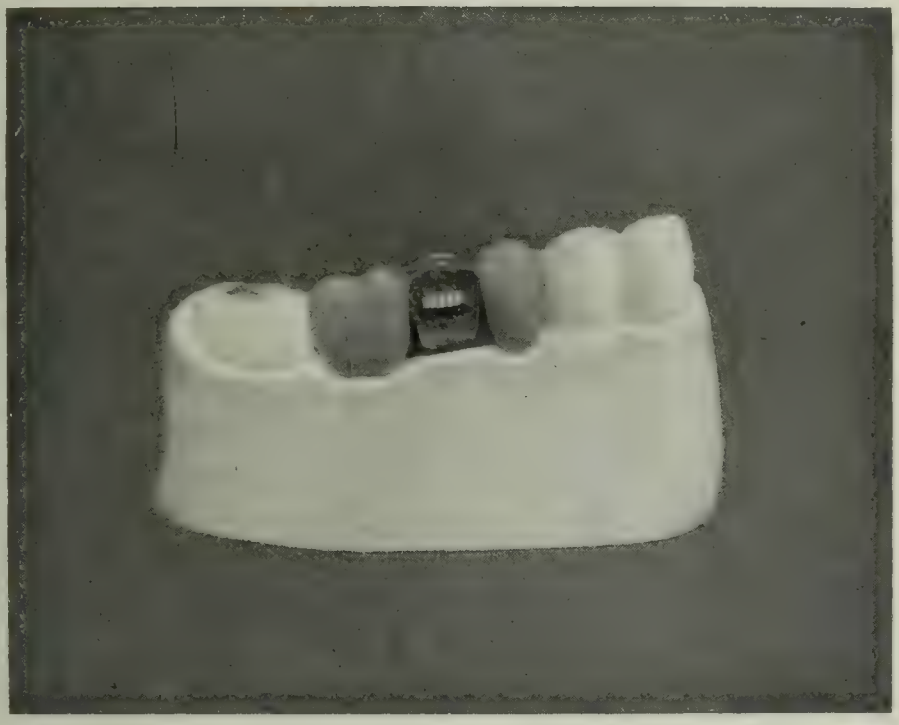


A—Broken Pin. B—Pin left standing
C—Spot where new hole should be drilled and tapped.



Repair Facing cemented on to Stud.

Ash's Repair Facing Outfit—*Continued*



PRICES

Repair Facing Outfit as per Illustration -	$5.00
Repair Facings, each - - - - - -	.18
Extra Gold Studs - - - - - - -	.40

Send a Mail Order NOW for one of these valuable Repair Outfits and be ready for the next case of repair : : : :

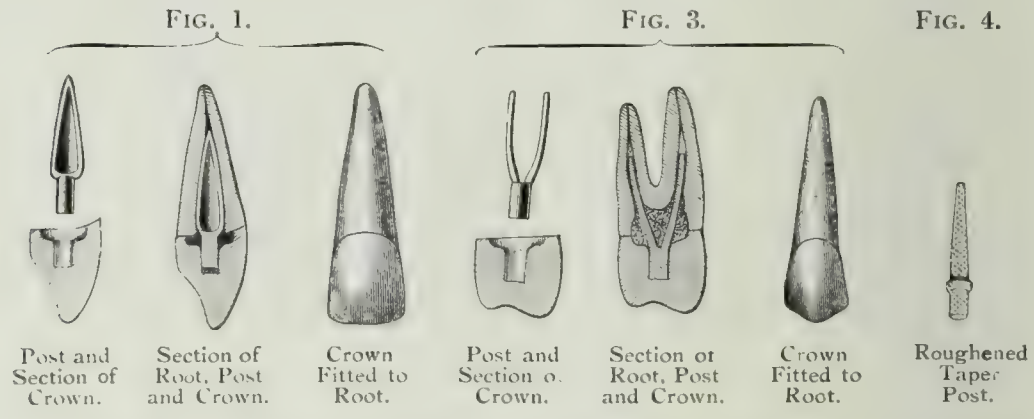
Claudius Ash, Sons & Co., Limited

Ash's Dowel Crowns

The principal advantages of a detachable crown, as contrasted with a crown having a pin fixed in the mineral, lie in the facilities afforded for grinding the base of the crown to fit the root and for bending the dowel to the angle required to obtain a correct bite.

In Ash's Dowel Crowns the measurements and shapes of the bases are such as to fit the greatest number of average roots.

Posts for Crown Work



The Fluted Post (Figs. 1 and 2) and the Bifurcated Post (Fig. 3) are made of Dental Alloy, which is more rigid than Platinum. The strongest part in them is the part which has to bear the greatest strain, viz., where the crown joins the root.

Fig. 1 is made in two sizes, large and small. The large size is suitable for upper roots in general, and the small size for the roots of narrow upper laterals and the roots of lower teeth.

Fig. 2. Not illustrated. Similar to Fig. 1, but smaller.

Fig. 3, for the bifurcated roots of bicuspids, is extremely strong, and yet the prongs are sufficiently pliable and thin to admit of their adaptation to the bends of root-canals.

Fig. 4 is a tapered post of great strength, made from a stiff white metal. It is roughened all over in such a way as to afford a very firm and secure hold to the cement which is used for joining the Crown to the Post and setting the Post in the Root.

Fig. 5. Not illustrated. Similar to Fig. 4, but smaller.

Ash's Dowel Crowns

The following five pages, which show some of our moulds of Ash's Detached Post Crowns, are well worth close examination and study. The illustrations will be valuable as a reference and guide in ordering by mail. Keep these illustrations in a convenient place, as, of course, you will become a user of them when you are conversant with their superiority over any of the existing dowel crowns.

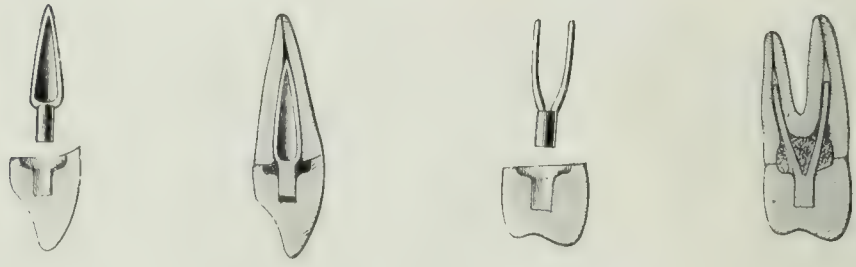
The price, too, is a great consideration—make a note of it—

12 cents each.
$10.00 per hundred.

Outside of the recognized value they have, as being made of our celebrated mineral, positively the only body that can be *successfully* polished after grinding, the moulds are the most serviceable. Notice in the Anterior and Bicuspid teeth, the provision for roots that are large bucco-lingually.

Note also the recess in the crown that takes the post. It is etched in each and every crown, assuring you of perfect cementation. We are also making now the labial aspect of our crowns much longer than shown in the illustrations. This improvement is obvious.

Ash's Dowel Crowns



The principal advantage of a detachable crown, as contrasted with a crown having a pin fixed in the mineral, lies in the facility afforded for grinding the base of the crown to fit the root and for bending the dowel to the angle required to obtain a correct bite.

In Ash's Dowel Crowns the measurements and shapes of the bases are such as to fit the greatest number of average roots.

The dowels are made of the best quality Dental Alloy, and are much more rigid than Platinum; they are strongest at the part which has to bear the greatest strain, viz., where the crown joins the root. Those intended for bifurcated roots of Bicuspids are extremely strong; at the same time the pin ends are sufficiently pliable and thin to allow them to follow the bends of root-canals. We need hardly emphasize the serious objection that exists to the insertion of a base metal pin in a natural root.

Made in sets of six—Centrals, Laterals, and Canines in thirty sizes and patterns, Bicuspids in fifteen sizes, and Molars in fourteen sizes; other sizes in preparation.

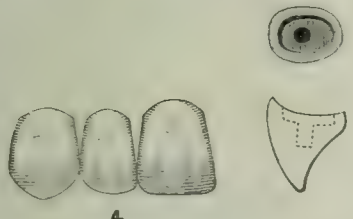
Each	12c
100 Crowns	10c
500 Crowns	9½c
1000 Crowns	9c
Single Pins, in two sizes, in Dental Alloy...each	40c
Bifurcated Pins, in Dental Alloy.....each	50c
Base Metal Pins.....each	5c

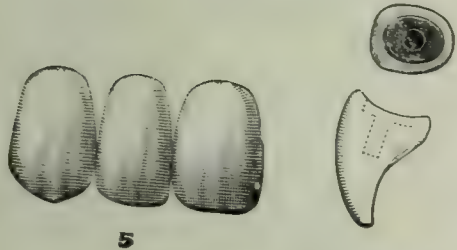
ASH'S DOWEL CROWNS—UPPERS

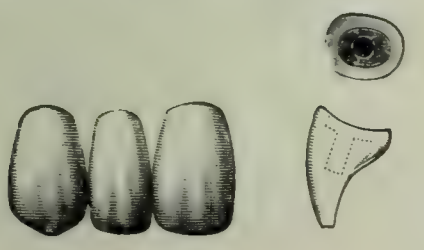

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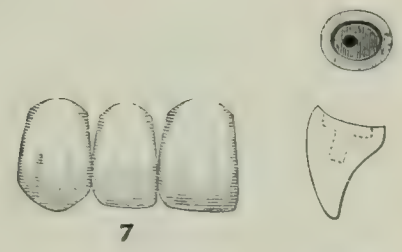

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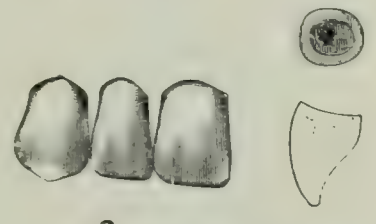

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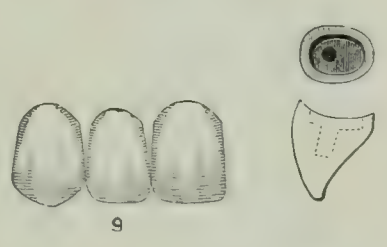

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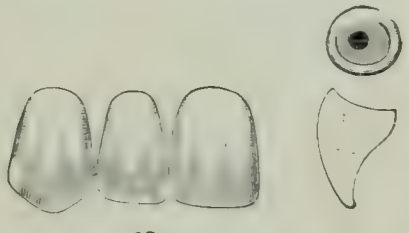

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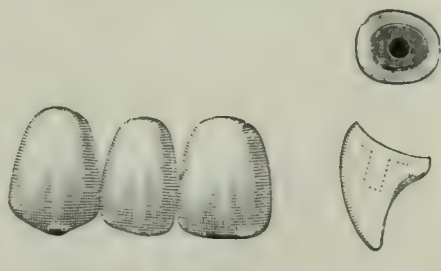

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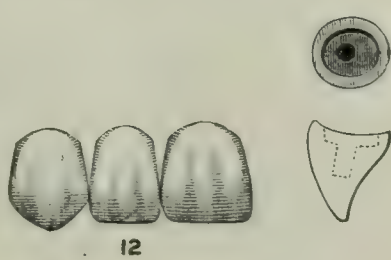

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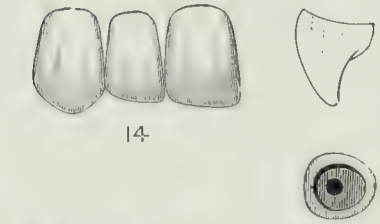

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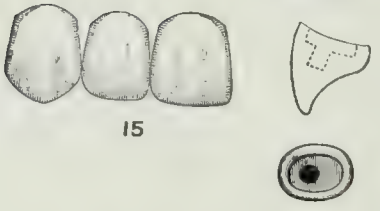

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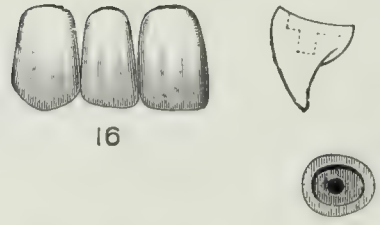

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ASH'S DOWEL CROWNS—UPPERS


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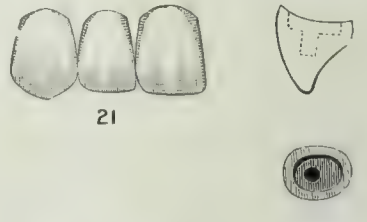

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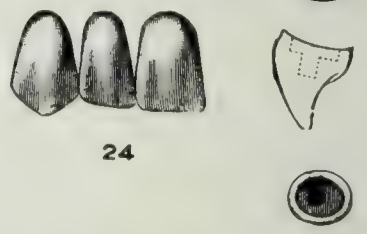

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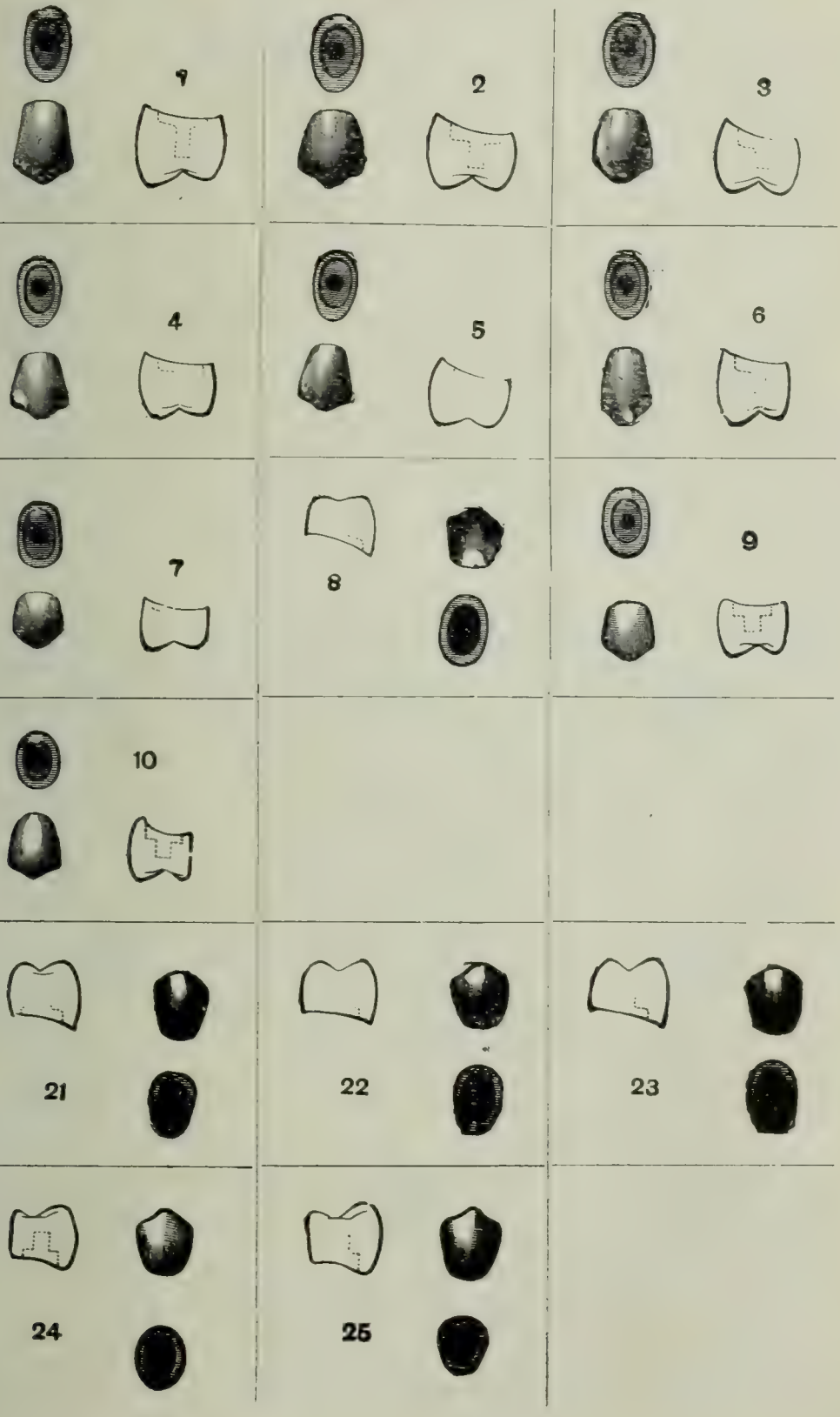

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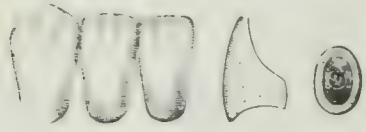

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ASHS' DOWEL CROWNS—BICUSPIDS



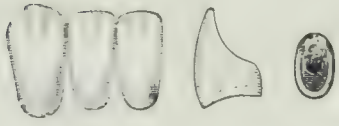
ASH'S DOWEL CROWNS—LOWERS



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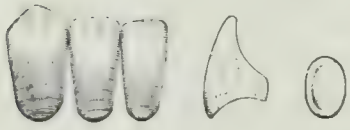
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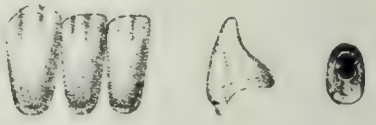
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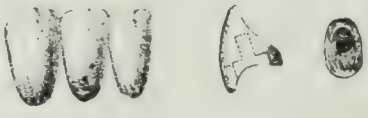
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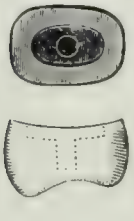


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MOLARS



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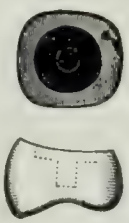
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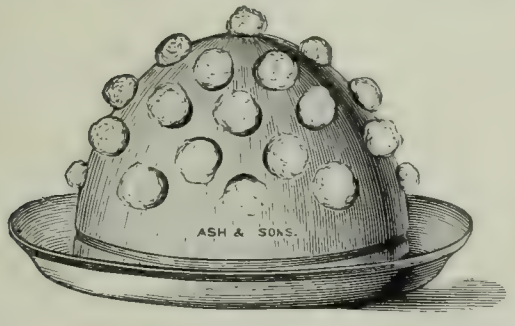
WHERE there is much exhaustion and persistent nausea after anaesthesia, HORLICK'S MALTED MILK, taken hot affords prompt relief, with no unpleasant results following its administration.

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Cutriss Cotton Pellet Holder



The difficulty of picking up one pellet at a time with the tweezers, owing to the lightness and adherent nature of the cotton, is entirely overcome by the use of this holder.

A loose dome with a spring and screw pillar is fitted inside the outer dome so that the pellets are kept close to the holes, consequently the last pellet is as easily taken hold of as the first.

The holder is a well-made solid affair much different from many of the pellet holders offered for sale.

Price, heavily nickelled $1.25

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GRADUATE ASSISTANT WANTED—New Brunswick. Must be Experienced. Apply Ash & Sons.

A mechanical man of six years' practical experience and first year's practical and theoretical knowledge of the Dental Course at the R.C.D.S. desires engagement with a Dentist in or out of Toronto. Apply Ash & Sons

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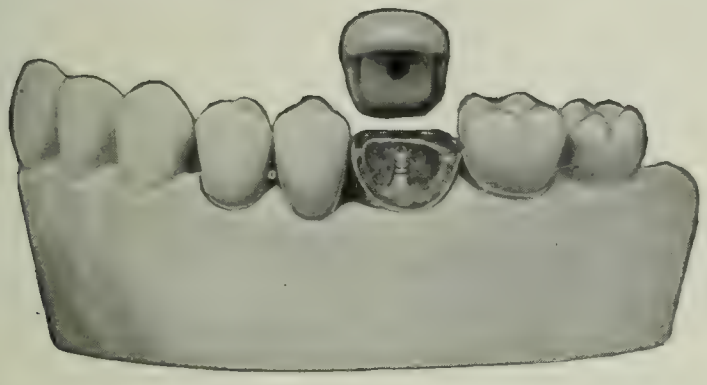
1	Leighton-Jackes Overhead All Cord Engine, 110 V., 60 Cycle, with Doriot H.P.	$80
1	S.S.W. Pattern Chair, Leg Base	30
1	Special Golden Oak Cabinet with Mirror and Medicine Top, practically new	60
1	Davis Gasometer, less Face Piece and Tubing, excellent condition	18
1	Wetherby Suction Machine (new style), in A-1 condition	25
1	Davis Gasometer 1 Mills Centrifugal Casting Outfit 1 Olivian Swager	25
1	Large G. O. Cabinet. A-1 condition. A bargain	60
1	Ash Britannia Chair. Leather upholstery. A-1 mechanism	100
1	Davis Vulcanizer. Good condition	10
1	S.S.W. Crown Outfit	15
1	Ritter Overhead All Cord Engine, 110 V., D.C.	75
1	" Wall Type All Cord Engine, 110 V., 60 Cycle 1 " Lathe, 110 V., Alternate Current	110

Claudius Ash, Sons & Co., Limited

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Crown and Bridgework

The Standard of Modern Dentistry



THE SIMPLICITY OF ITS TECHNIQUE, THE FULL PORCELAIN CUSP, THE LIFE LIKE APPEARANCE, THE ABSENCE OF GOLD, THE LOWER COST, THE UNUSUAL STRENGTH, THE INTERCHANGEABLE FEATURE, ARE ONLY A FEW OF THE ATTRACTIVE ADVANTAGES, MAKING THE GOSLEE TOOTH SO POPULAR IN THE PRACTICE OF **MODERN DENTISTRY.**

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Specialists in removable and semi-removable bridge work.

Griswold, Morgan, Roach Bennett Bar, Fossume-semi-removable and Gilmore attachments

Porcelain bridge work.

Continuous Gum Work.

All classes of Tube tooth work.

Ash's Swaged Vulcanite Dentures, Bar Lowers, etc.

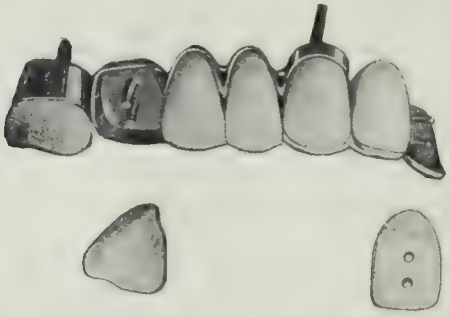
Chas. L. Daly

X. L. C. R. Dental Laboratory

ROOMS, 1, 2, 3, 4 & 5,
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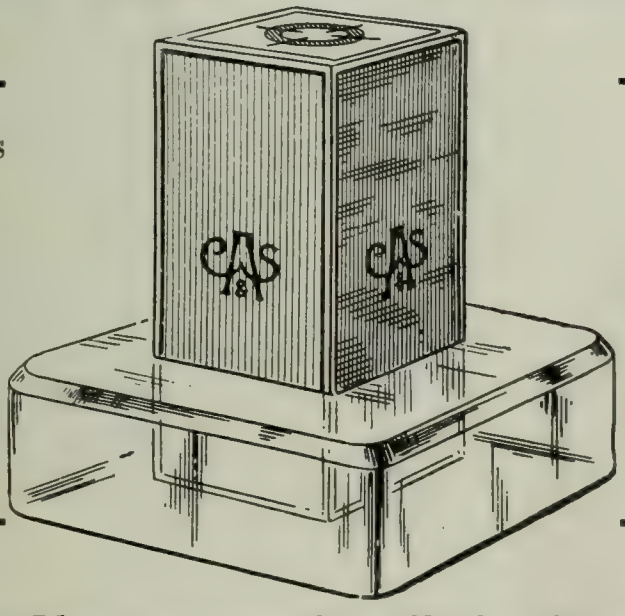
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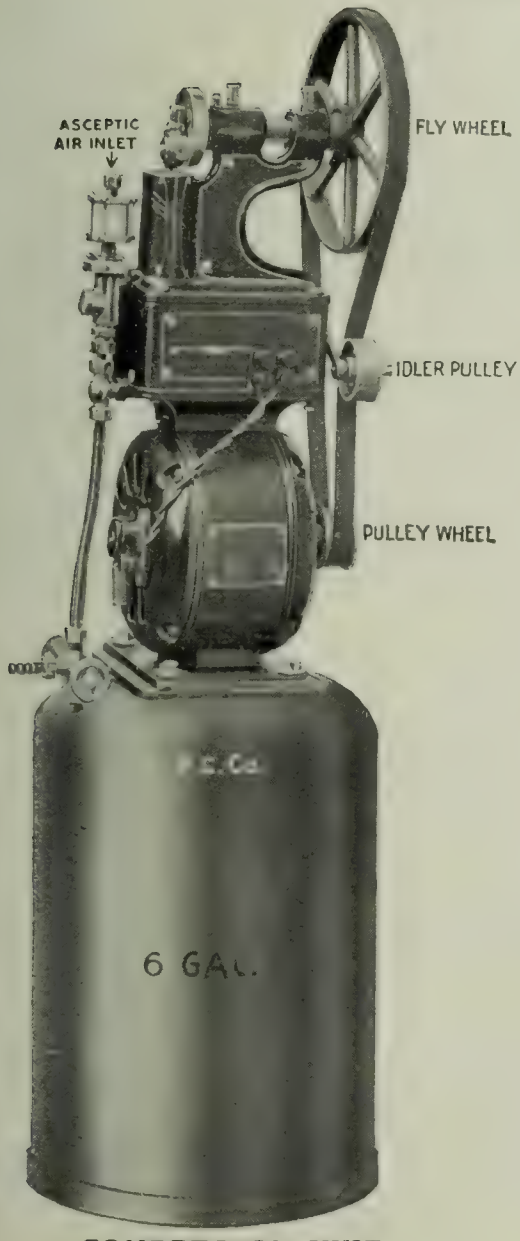
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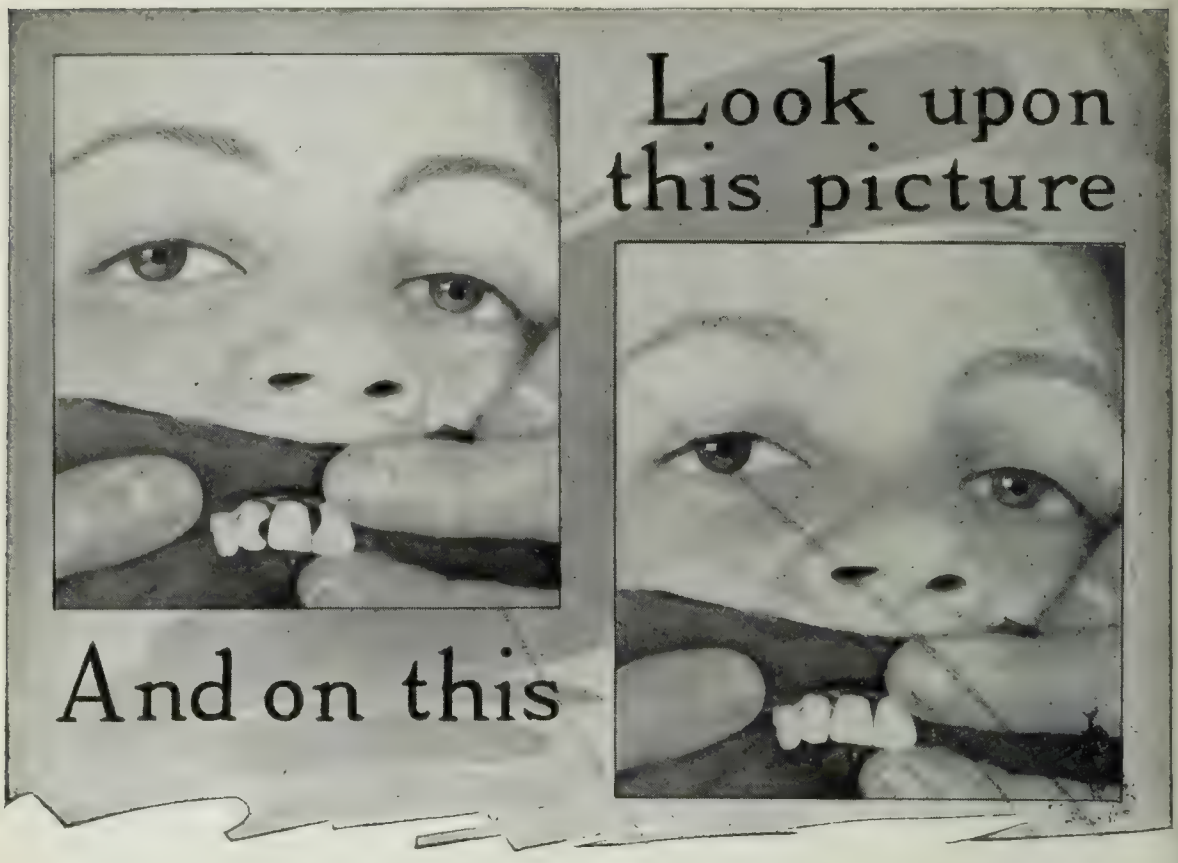
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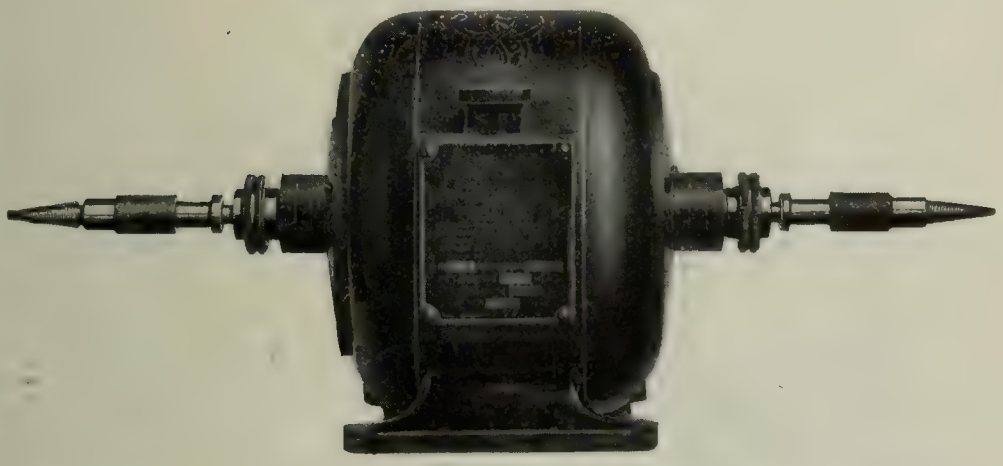
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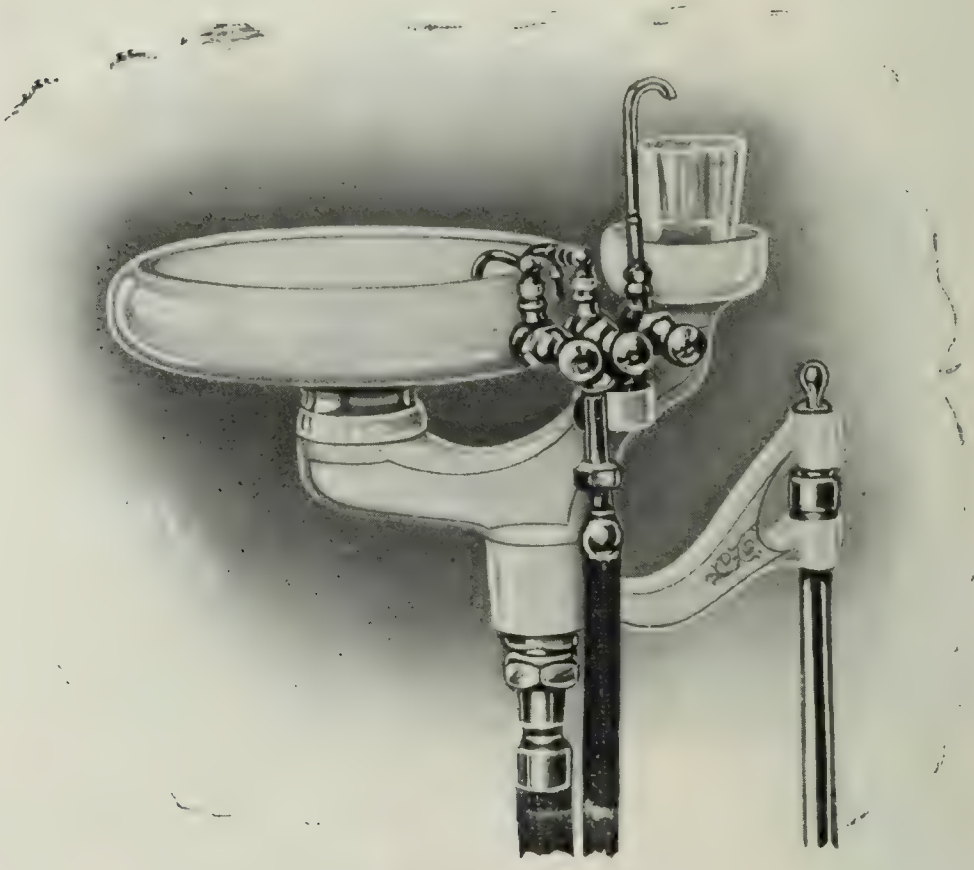
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TWENTY DOLLARS

You cannot get One Hundred of any other reputable Crown for less than

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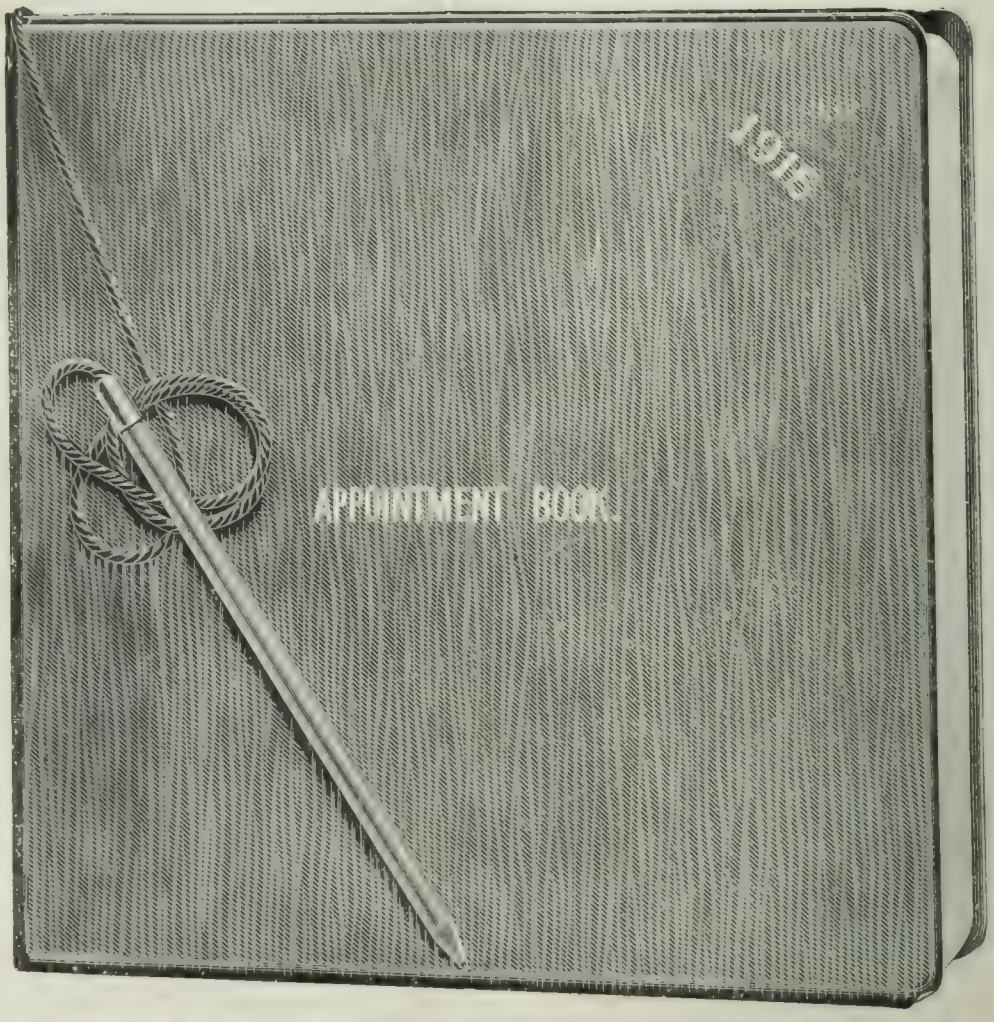
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VOL. 5 No. 6

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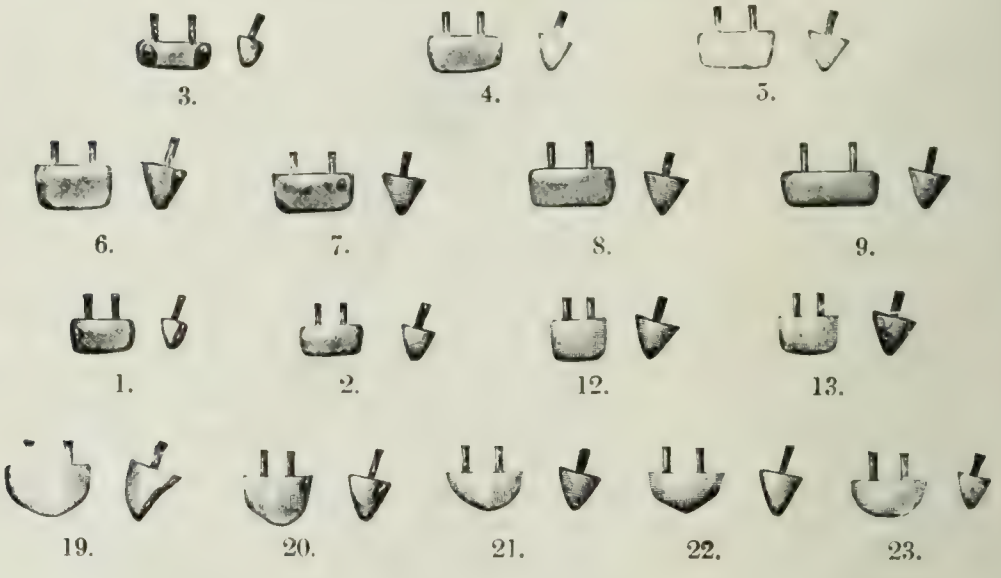
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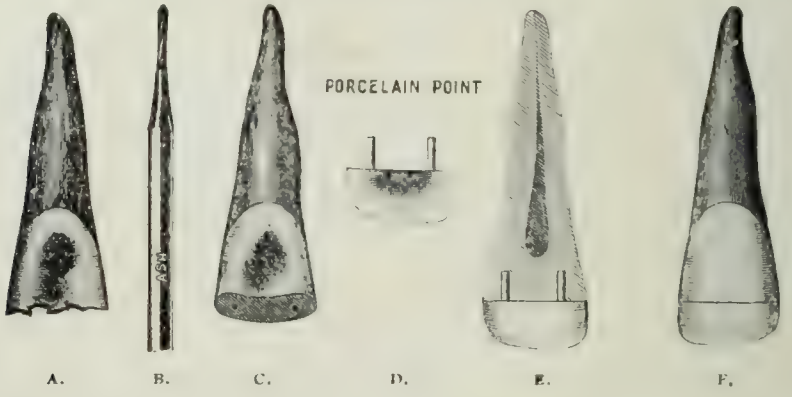
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A.—The fractured tooth—palatal view.

B.—Drill for making holes for the reception of the pins.

C.—Prepared tooth ready for Tip—palatal view.

E.—Section of repaired tooth which shows position of pins in relation to the pulp.

F.—Labial view of finished tooth.

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Ash's Canadian Monthly Circular

VOL. V. TORONTO, DECEMBER 1, 1914 No. 6

SOME ANOMALIES OF THE HARD DENTAL TISSUES.*

By A. HOPEWELL-SMITH, M.R.C.S., L.R.C.P., L.D.S. Eng.,

Lecturer on Dental Anatomy and Physiology, and Assistant Dental Surgeon at the Royal Dental Hospital of London.

In the following communication I have pleasure in submitting to the Congress a few brief notes on several rare pathological conditions of the enamel and dentine of the teeth of man. They are isolated cases, and, so far as it is possible to judge, are unlikely very soon to be pluralized.

The question of the value of examining and putting on record solitary instances such as those about to be described is one of some importance. Facts are best deduced from a great number of observations, every side of a subject being scrutinized and utilized in all its aspects; incontrovertible proof is most surely obtained from the work of many years, and as the outcome of the examination of much material.

It sometimes happens, however, that opportunities arise for the investigation of curious irregular conditions which are seldom met with. A study of such is, however, not valueless, but may by its very obscurity and very rarity serve two purposes. First, it may be possible at times to find that light is unexpectedly but clearly thrown on normal physiological but not easily understood problems; and, second, the sum of our knowledge of the workings of the forces of disease may be enlarged, and, consequently, the guiding principles of prophylaxis or treatment distinctly benefited. On the other hand, it is possible, that partly understood processes—physiological or pathological, as the case may be—may be rendered even more complex, and leave the mind in a more chaotic state than before. It is to be hoped, however, that that will not be so in this instance.

* From the Transactions of the Fourth International Dental Congress.

The processes of calcification of enamel, dentine, and cementum are defined with some considerable difficulty, and the problems relating to absorption of the hard tissues do not admit of an easy solution. It may be found useful at some distant date to recall the extraordinary appearances presented by the following studies.

DUPLICATION OF THE PULP-CAVITY.

An upper first permanent incisor was removed from the mouth of a young adult for the purpose of relieving the crowding of the anterior teeth. It was apparently sound, save for a longitudinal depression on the mesial aspect of the crown. On preparation and staining it was found to possess two pulp-cavities, each free at the distal extremity, but united toward the radicular portion of the neck of the tooth. The smaller cavity was situated on the lingual side. A medium vertical section showed that the enamel and dentine of the labial surface were practically normal. But the lingual side displayed several interesting and unique pathological conditions.

The enamel was much thickened in amount—there was what one might term hyperplasia of this tissue. It was, moreover, of poor construction, imperfectly calcified in places, but free from caries or external or internal absorption. It colored vicariously and in patches only by the borax-carmine stain.

Projecting into this thickened enamel, and close to the primary pulp-cavity, was the subsidiary pulp-chamber, whose surface was smooth and did not present the foveolæ of Howship. A thin narrow spur of well-formed dentine, similarly unabsorbed, intervened between it and the free surface of the tooth. Nowhere did the dentine show signs of absorption. It was, generally speaking, fully developed, the tubes ending in the usual manner and extending in the usual direction. The pulp tissue was not well preserved, but fragments exhibited nothing abnormal in its structure.

It is not at all an easy matter to decide as to the method of the formation of the second pulp-chamber. It is possibly due to segmentation or invagination of the enamel organ on the tongue side of the tooth-germ, and dichotomy of the dentinal papilla in the corresponding situation. Had the process continued to a completer stage, there would probably have been found a true germination of the tooth, by the budding off of a smaller caniniform structure on the inner side.

The invagination of the epithelial tissues might be accounted for by the mutual pressure of large teeth-germs in a small dental arch.

Undoubtedly, had it been necessary to drill into the crown

with a bur on the engine, the enamel would have easily snapped off and exposed the pulp in one or both chambers—an element of danger never to be forgotten in the preparation of cavities during the obturation treatment of dental caries.

FALSE PULP-NODULE.

Suppose this carious process had applied to the root portions of the dentinal germ, a condition such as is exemplified in specimens similar to the next to be described would assuredly be noted. Here the anomaly is in the root; in the case just described it was in the crown. For a section showing this irregularity the writer is indebted to the courtesy of Mr. Leslie Hodges, D.D.S., of Birkenhead, who sent him a section of an upper second premolar.

At first sight it would appear that a large pulp-nodule in situ was the only pathological change; but this is not so. Attached to one side of the root-canal, and deflecting the pulp from its usual course and position, was a large oval structure of dentine, having a kernel composed of osseous tissue and soft material containing blood vessels. It soon became obvious, however, that the centre of this adventitious body, which must be considered to be a developmental defect, was a compromise between compact bone and hyperplasic cementum. The lamellæ of properly constituted Haversian systems of the former were absent; the grossly exaggerated lacunæ of the latter were present in a multitude of shapes and sizes. The chief point was the enlarged width of the granular layer of Tomes, with larger spaces than usual. In this respect the periphery of the new structure corresponded very closely with that upon the external part of the cementum, with which it was most probably in direct and continuous communication.

The condition might have been produced by the invagination of a piece of the inner wall of the dental follicle or periodontal membrane, and its inclusion and full development when in situ. Precisely how this has been occasioned it is impossible to say. The epithelial sheath of Hertwig—a prolongation downward and then upward of the layer of cells of the internal epithelium of the enamel organ—may, during its formation of the shape of the root, have undergone a spur-like budding, which, projecting inward, produces the appearance noted. At all events, this is an example of another obstruction to be met with at times in the root-canals of teeth, and one which makes the total extirpation of a pulp a remarkably difficult if not impossible operation to perform.

ABSORPTION OF ENAMEL AND DENTINE.

The last case to be described presents a most rare and extraordinary condition of absorption of the hard tissues. A man-

dibular third molar whose external configuration was of a more or less normal character, was divided several times in a vertical direction to ascertain the structure of an osseous mass situated securely on the exposed surface of the crown. After staining with Weil's process, it was found that not only had the greater part of the enamel been removed by some obscure pathological process and compact bone deposited in its place, but that the greater part of the dentine was similarly affected.

In one place the amelo-dentinal junction was not invaded, but the underlying dentine had been removed to such an extent that only a thin layer of hard normal tissue intervened between the pulp and the amelo-dentinal junction. The spaces were thus occupied by a mass of well-formed bone, lacunæ with their bone corpuscles and canaliculi everywhere predominating, and extending as trabeculæ in all directions. The intervening soft tissue presented nothing of a definite structure, as the soft parts had not been retained in their fresh state in physiological relationship to the bone or dentine. It is impossible for enamel or dentine or cementum to become inflamed—their anatomical peculiarities absolutely preclude this—and it is very difficult at first sight to explain the presence of the new adventitious tissue in this situation. Speaking with all reserve, however, it may be that an inflammation of the dental follicle has occurred. Osteoclasts, acting for some long period, had brought about absorption of the enamel surface, more and more of the tissue became removed, and presently the dentine was reached. The pathological work was more rapidly conducted in the latter, because of the ease with which tubular tissue can be absorbed.

Simultaneously with the inward march of an army of osteoclasts came multitudes of osteoblasts and soft tissue freely vascularized from the dental follicle; and the result was a repairing of the breach by the production of true bone. That there had been some inflammatory changes in the periodontal membrane and dental follicle was evidenced by the enormous hyperplasia of the cementum, which in one of the sections extended some considerable distance over the enamel margin. The cementum itself was very lacunated and quite abnormal in character.

It is again obvious that in the operative treatment of such a tooth, a bur on the engine, no matter how lightly used, would suddenly and without warning plunge into the pulp-cavity and expose the surface of that organ.

RECAPITULATION AND SIGNIFICANCE.

All these cases—of the frequency of occurrence of which one is unable to form any opinion—point to the fact that should always be borne in mind when excavating carious cavities in enamel or dentine and using the dental engine, viz., that curious

developmental and acquired defects of these tissues that in themselves are absolutely outside the realm of diagnosis may exist. And extreme care should ever be exercised in the treatment of cavities, lest any such condition as described should, unwittingly on the part of the operator, but none the less disastrously, be suddenly and inexplicably discovered.

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Stents Composition

The Pioneer of all Impression Compositions has now been before the Profession for

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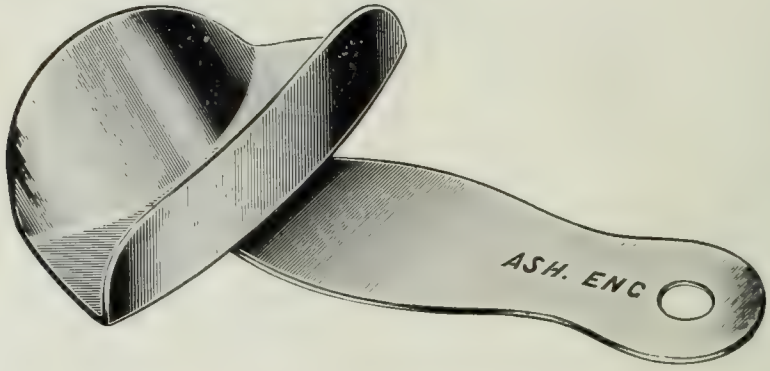
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Ash's Fig. 3 Swivel Tray



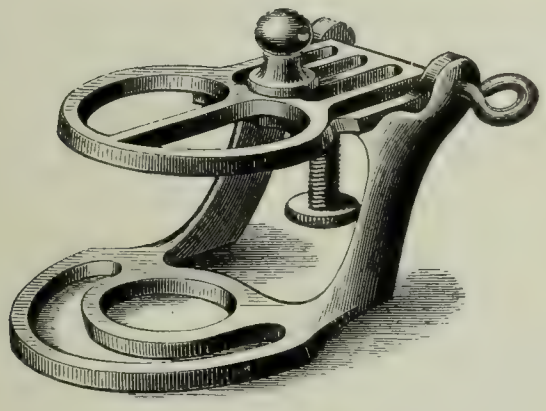
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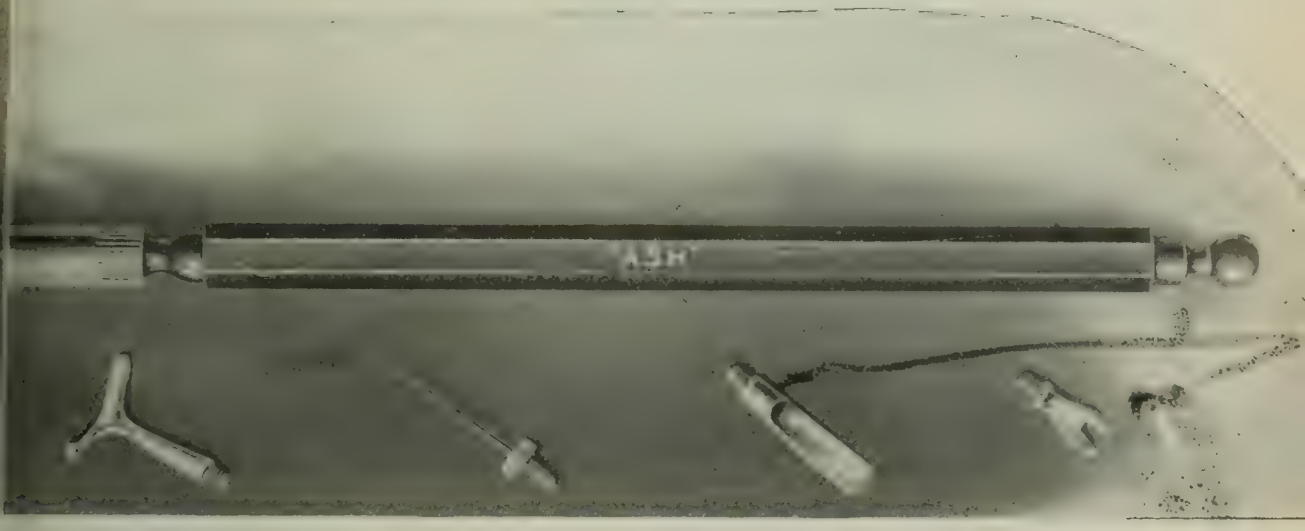
For Further Description see Opposite Page

The Chisel will be found most useful in operations on all posterior teeth, and is invaluable in preparing cavities for inlays in the distal surfaces of the bicuspid and molar region, heretofore inaccessible except with a burring instrument.

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Patented in the United Kingdom and in the United States. Other Patents pending

Dr. Galloway's Suction Device has been specially designed for lower dentures, and the need of such an aid has long been felt.

Its practical efficiency has been thoroughly tested by lengthened wear in the mouth.

It consists of a curved metal bar which has countersunk holes in it, four pins for securing the bar to the plaster model, and a vulcanized strip of specially prepared rubber.

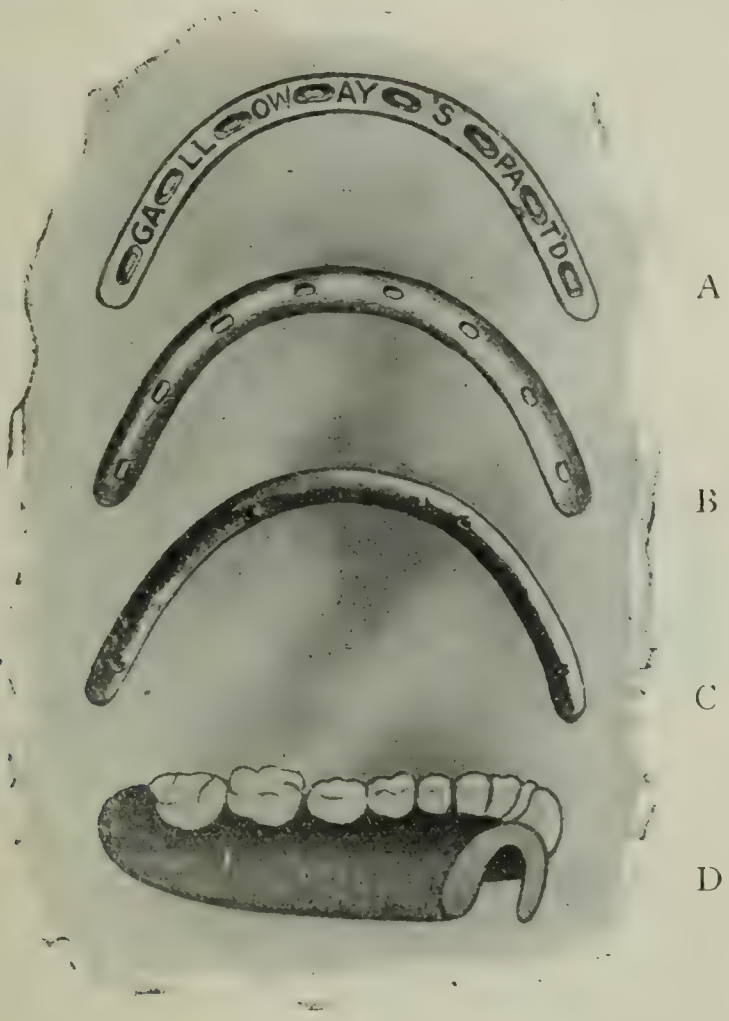
The rubber strip is held in position in the denture by the suction which is produced by the small holes on the curved surface, and to the gum by the suction through the larger holes on the flat surface.

The strip can be removed and replaced by the patient within half a minute.

There is enough suction produced, through the holes in the rubber strip, to hold the denture securely to the gum, without any discomfort to the patient.

Galloway's Suction Device—*Continued*

FIG 1.



Natural size.

A and B show the flat and curved surfaces of the rubber strip and the holes which serve to retain the denture in position in the mouth.

C—Metal bar with countersunk holes into which the heads of the pins should be firmly pressed.

D—Section of denture which shows the rubber strip in position.

PRICE - - - - $1.00

Claudius Ash, Sons & Co., Limited

Ash's C.A.S. Cement



Supplied in the following six shades:—White, Pale Yellow, Yellow, Pearl Grey, Grey, Brown.

Noted for the following qualities:—**Easy Working, Tenacity, Stability, Imperviousness, Enamel-like Surface, Hardness and Edge Strength.**

We claim that

It is unsurpassed by any Cement of the Oxy Phosphate class.

It is synthetically prepared and has stood the test of time.

1 Colour Packet, Small	$ 1.50
6 Packets for	7.50
1 Colour Packet, Large	2.50
6 Packets	12.00
4 Colour Packet	2.50
6 Packets	12.00

THE DARK WEATHER

Now is the time to provide yourself with a good useful Reflector as an aid to your eyesight when the daylight is poor or ended.

Try Ash's No. 13 Reflector with Casco Light and No. 2 B Bracket, - - $16.65

Claudius Ash, Sons & Co., Limited

TRIKRESOL-FORMALIN

SOLUTION AND PASTE

(Dr. J. P. Buckley's Formula.)

DIRECTIONS FOR USE.

1.—In Teeth with Gangrenous Pulps, open up the cavity and clear out the canal or canals. Soak one or more cotton pellets in the Trikresol-Formalin Solution, insert in the canal or canals, and securely seal the cavity with Fletcher's Artificial Dentine to make it perfectly air-tight.

After one or two days remove the cotton pellets, wash out the canal or canals and cavity with a 3 per cent. solution of Carbolic Acid, and then thoroughly clean and dry out.

Now flow a drop of the Trikresol-Formalin Solution in the canal, or in each canal if more than one, fill the canal or canals with Trikresol-Formalin Paste, and proceed with and complete the permanent filling.

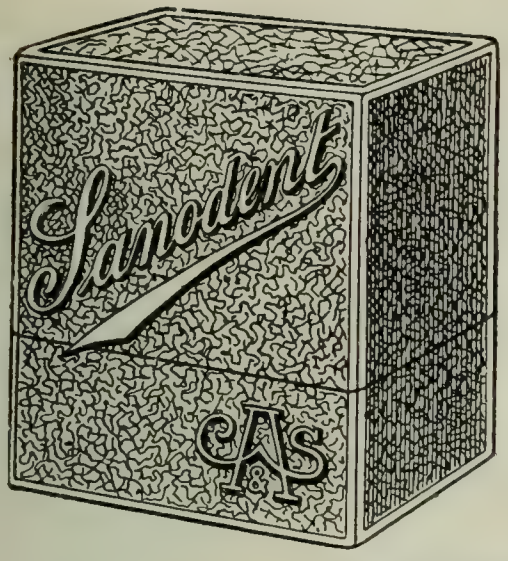
2.—Trouble subsequent to Root Treatment. When inflammation with swelling and pain develops in teeth, the roots of which have been long previously treated, and trephining has to be resorted to, they should be left open under Trikresol-Formalin Dressings for a few days; the treatment described above, under No. 1, can then be completed in two sittings.

3.—Pulp Amputation and Nerve Extraction. In cases of pulp amputation and nerve extraction insert in the canal a cotton pellet soaked in Trikresol-Formalin Solution, seal air-tight with Fletcher's Artificial Dentine, leave for a few days, then remove, flow a drop of Trikresol-Formalin Solution in the canal, fill it up with Trikresol-Formalin Paste, and insert the permanent filling upon it.

4.—Gangerous Pulp and Fistula. Should a gangerous pulp be accompanied with a fistula, Dr. Buckley opens the fistula, drains off the pus, inserts cotton pellets soaked in Trikresol-Formalin Solution and seals perfectly air-tight with Fletcher's Artificial Dentine. If necessary the treatment is repeated several times. The final stages of the work are carried out as described above under No. 1.

The most successful results are obtained when the above directions are faithfully followed.

Large package.....$1.25 per box.



Sanodent

(Registered)

A Superior Root Dressing

FROM THE FORMULA OF

MR. C. R. FITCH, L.D.S., Eng.

Sanodent has been regularly used and well tested for nearly four years with the most satisfactory results, hence it is offered to the Profession as a Thoroughly Reliable Preparation

DIRECTIONS FOR USE

As a Dressing for Septic or Abscessed Teeth.—Thoroughly clean out the contents of the Pulp Chamber and Root Canals in the usual manner. Mix the Sanodent Powder and Liquid to the consistency of thick cream and apply on Cotton Wool to the Root Canals and Pulp Chamber. Repeat these dressings until the tooth is perfectly "sweet." Then permanently fill the Canals with either Asbestos Fibre, Gutta Percha Points, or Cotton-Wool covered with Sanodent mixed to a fairly thick paste.

In very septic teeth, which at the time of treatment are not abscessed, it is advisable at the first to clear out the contents of the Pulp Chamber only, apply a dressing of Sanodent, and leave the treatment of the Canals until a subsequent visit, when their contents will be far less septic.

Some Other Uses.—In those cases in which for some reason or other (*e.g.*, Tortuous Canals), it is impossible to clear out the Canals thoroughly, cover the orifices of these Canals with Sanodent mixed to a paste, and carried to place on Asbestos Fibre or Cotton Wool. Any remaining Pulp will be preserved in an antiseptic condition.

As a "Mummifying" agent, those who practice "Mummification of the Pulp" will find Sanodent excellent. Subsequent to devitalising and removing the coronal portion of the Pulp, apply Sanodent, mixed to a paste, on either Asbestos Fibre or Cotton Wool.

After the application of Arsenic, a dressing of Sanodent left on for a day, prior to attempting the removal of the Pulp, will render the pulp tough and thus admit of its being much more easily removed whole from the Canals.

Sanodent is very useful as a permanent Root-Canal Filling when it is mixed to a paste and used in conjunction with Asbestos Fibre, Gutta Percha Points, or Cotton-Wool.

N.B.—Do not force Sanodent through Apical Foramina, and do not seal it in contract with living tissue, either pulp or gum. Sanodent is not intended to replace proper Root Treatment, but to aid it.

Sanodent is supplied in stoppered bottles. The bottles should be kept well closed when they are not in use. After exposure to light and air the liquid becomes somewhat darker in color than as supplied, but this is no detriment to it, and in no way affects its efficacy.

Sanodent Powder and Liquid in Packets, per packet..... $1.25

CLAUDIUS ASH, SONS & CO., Limited



Ash's Fine Locking Tweezers

These Tweezers are very accurately made with fine, even biting beaks that afford you perfect satisfaction.

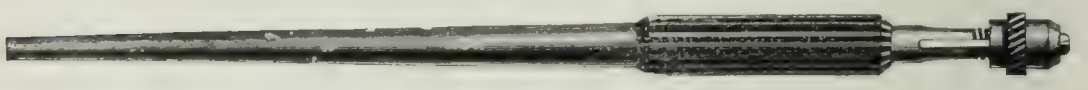
Price each - - 40 Cents

Ash's Vulcanite Broach Holder

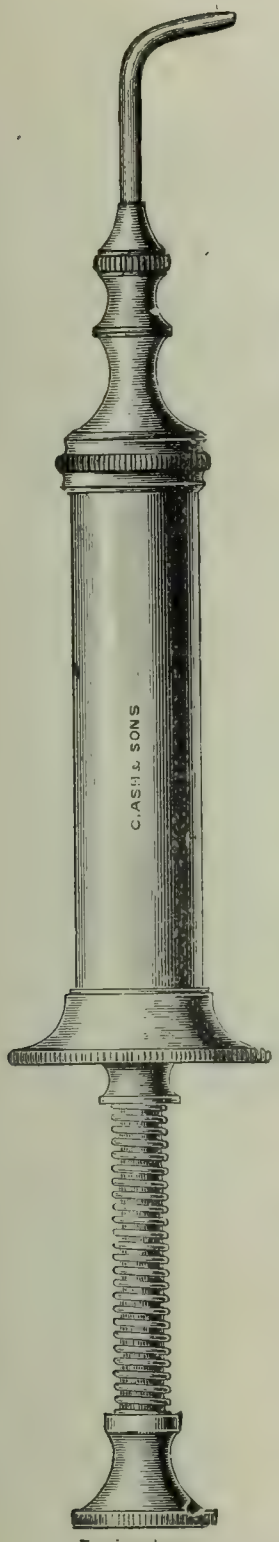
This is a neat, well balanced instrument that enables you to obtain a better and more delicate feel to your broach

It is accurately made, gripping the broach perfectly with a proper clamp.

Unlike the ordinary holder it is an ornament to your table.



Price - - - 30 Cents



7¼ inches.

Hunt's Fig. 1 Self-Filling Warm-Water Syringe

ORIGINAL FORM.

(From Pattern furnished to us by Dr. W. A. HUNT, of Yeovil, in 1870.)

This Original Form of Dr. Hunt's Self-Filling Warm-Water Syringe is known all over the world, and Dr. Hunt sets forth its advantages in these few simple words:—

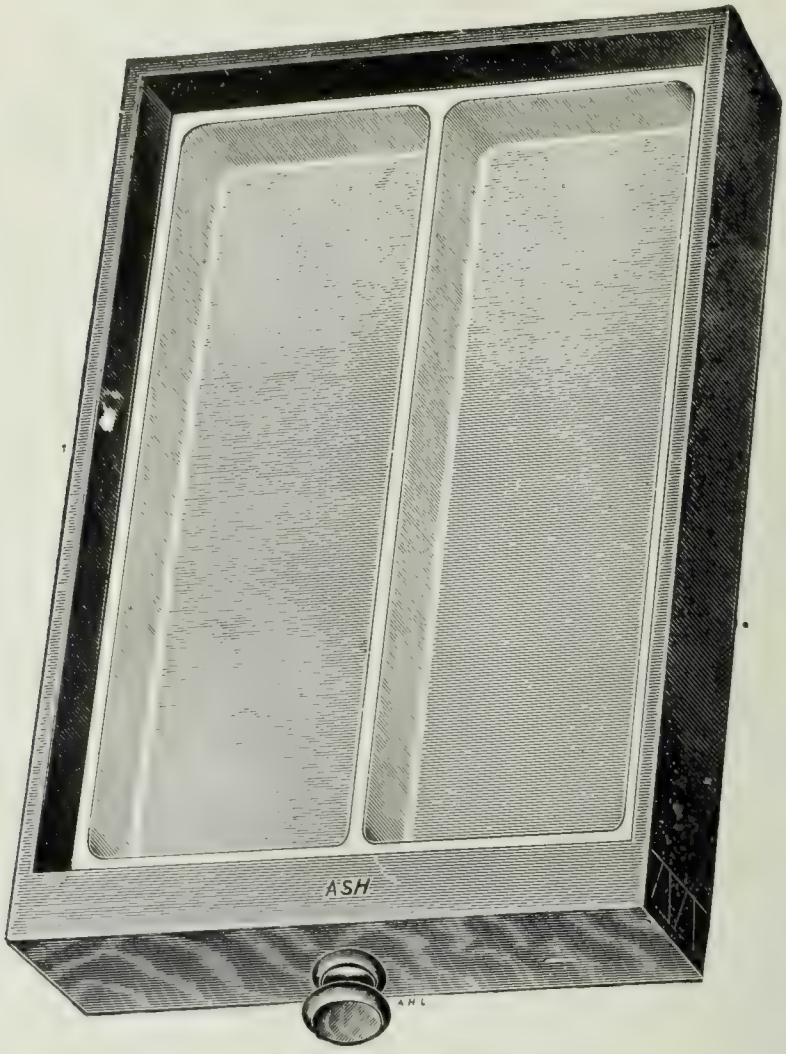
"The syringe with the spring compressed, as shown in the illustration, is put into a tumbler of warm water; thus when the Operator wants to use it the barrel is full of warm water immediately ready to his hand.

"Those who treat teeth are fully alive to the need of water in their syringe which is comfortably warm."

Syringe, nickel-plated, with screw-off curved nozzle and leather plunger... $1.85

PORCELAIN TRAY

DIVIDED DOWN THE MIDDLE. FOR LONG-HANDLED INSTRUMENTS.



The two small sizes of Porcelain Trays for small instruments and useful sundries have been so favorably received by the Profession that we have decided to add the size here illustrated to our stock for long-handled instruments.

It is made to fit the drawer of Allan's Bracket Table, the outside dimensions being 7¾ in. long by 4¾ in. wide by ¾ in. deep, but it can be lifted out of the drawer if desired and used in any situation most convenient to the operator.

It is perfectly aseptic, and practically equal to new each time it is cleaned.

Price.....each 35c.

PORCELAIN TRAYS

Porcelain Trays, each - - - - 10 Cents



Drawer of Allan Table with six large and three small Porcelain Trays—about half size.

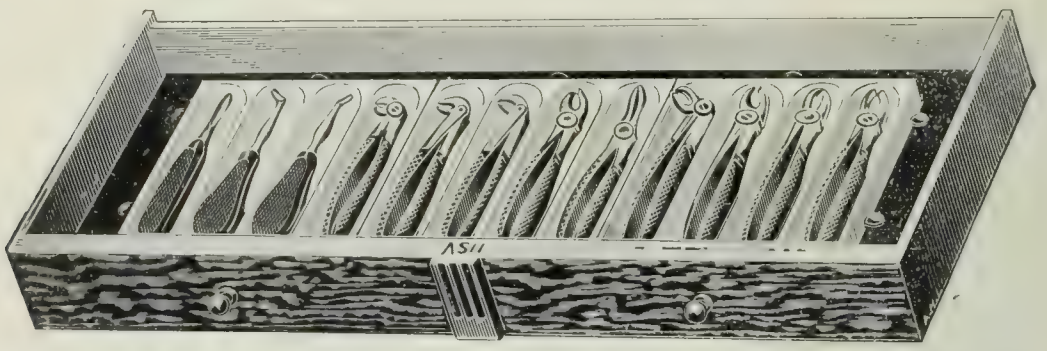


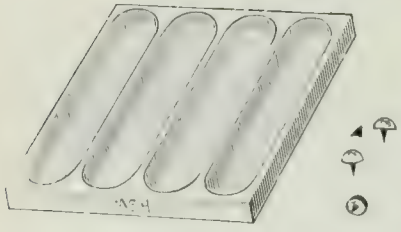
GLASS DROP BOTTLE

Round in form; supersedes the octagon shape.

Price - - - - 40 Cents

PORCELAIN TRAY, No. 5



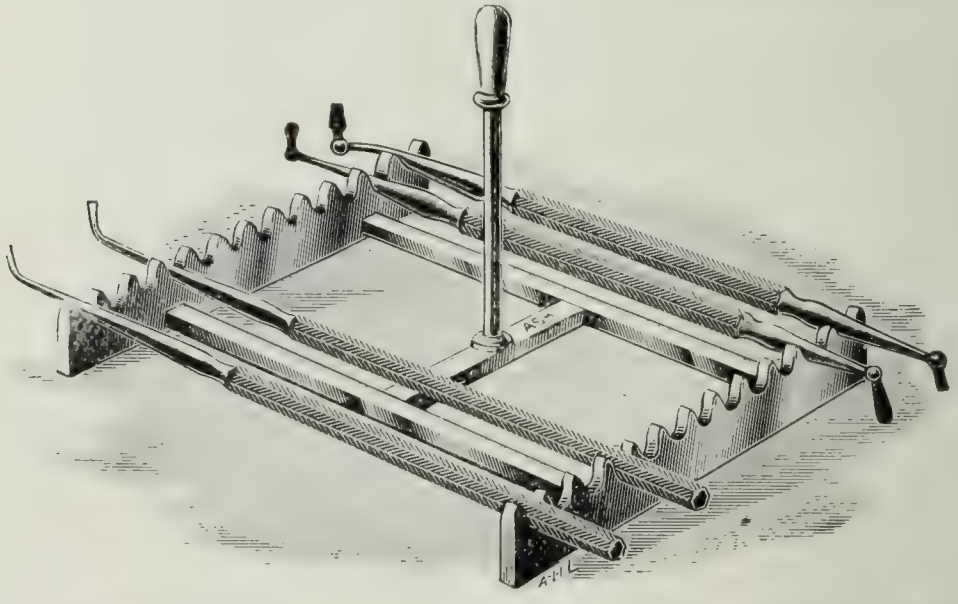


Upper illustration shews the Tray ⅙ natural size. The lower illustration shews a Cabinet Drawer holding Forceps and Elevators. These Trays can be used for many other purposes. They render possible the highest degree of cleanliness in the care of Extracting Instruments.

Tray with four divisions - 60 Cents.

INSTRUMENT STAND

FOR HOLDING EXCAVATORS, PROBES, PLUGGERS, SCALERS, ETC.



By means of the vertical handle the Dentist can readily lift the Stand about, and place it in the most convenient spot for use.

It is well made and finished, and will hold 12 instruments.

In Brass, Nickel-plated - - 80 Cents

A Page of Good Dependable Waxes

OUR many years of experience as makers of high class Wax for Dental purposes has enabled us to put products of the highest merit at reasonable prices at the choice of the discerning Dentist.

Ash's Pink Wax, No. 3 (low heat)	per lb.	.75
Ash's Pink Wax, Extra Tough	"	1.00
Ash's Yellow Wax, Extra Tough	"	1.00
Ash's Black Wax (Sticks) for Inlays	per box	.35

A Mail order, or a request to any of our travelling men will bring you prompt service.

Claudius Ash, Sons & Co., Limited



Bottle for Local : : Anaesthetic : :

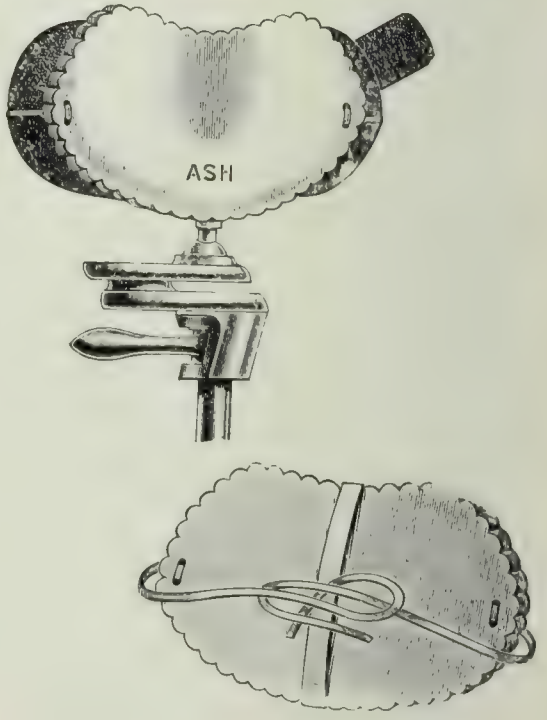
A nice attractive bottle with a burned on label

60 CENTS EACH

Sectional : ; : Head Rest Pads

A very useful paper :: pad suitable for :: Wilkerson or any Sectional Head Rest

70 Cents Package



Claudius Ash, Sons & Co., Limited



PUSCURE

Cures Abscesses to Stay Cured

¶ It will prevent any trouble of any kind when used as Canal Treatment after nerve extraction.

¶ It is not necessary to use up valuable time and break your back in cleansing fine Canals. Puscure is Hygroscopic and will penetrate to the very end of the root.

Puscure is curing Pyorrhoea in the hands of many Dentists. You can get the proof if you want it.

THE PUSCURE CO.

LOUISVILLE, KENTUCKY

CLAUDIUS ASH, SONS & CO., Limited

SOLE CANADIAN AGENTS

ASK FOR A SAMPLE



PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice, Walkerton, Ont. Apply Dr. F. Hughes, Waterloo, Ont.

FOR SALE—Dental Practice, Windsor, Ont. Apply Ash & Sons

FOR SALE—Dental Practice, St. Stephen, N.B. Apply Ash & Sons

FOR SALE—Dental Practice, Langham, Sask. Apply Ash & Sons

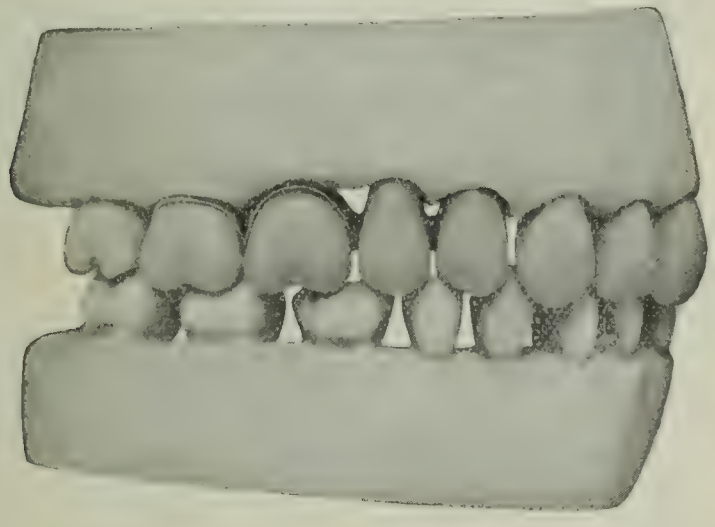
GRADUATE ASSISTANT WANTED—New Brunswick. Must be Experienced. Apply Ash & Sons.

SECOND-HAND GOODS

1 Leighton-Jackes Overhead All Cord Engine, 110 V., 60 Cycle, with Doriot H.P.	$80
1 S.S.W. Pattern Chair, Leg Base	30
1 Special Golden Oak Cabinet with Mirror and Medicine Top, practically new	60
1 Davis Gasometer, less Face Piece and Tubing, excellent condition	18
1 Davis Gasometer 1 Mills Centrifugal Casting Outfit 1 Olivian Swager	25
1 Large G. O. Cabinet. A-1 condition. A bargain	60
1 Davis Vulcanizer. Good condition	10
1 Ritter Overhead All Cord Engine, 110 V., D.C.	75
1 Clark Cabinet 1 Case Chair	30
1 Electro Dental Water Glass Heater	9

Claudius Ash, Sons & Co., Limited

GOSLEE
Crown and Bridgework
The Standard of Modern Dentistry



THE SIMPLICITY OF ITS TECHNIQUE, THE FULL PORCELAIN CUSP, THE LIFE LIKE APPEARANCE, THE ABSENCE OF GOLD, THE LOWER COST, THE UNUSUAL STRENGTH, THE INTERCHANGEABLE FEATURE, ARE ONLY A FEW OF THE ATTRACTIVE ADVANTAGES, MAKING THE GOSLEE TOOTH SO POPULAR IN THE PRACTICE OF **MODERN DENTISTRY.**

FOR SALE BY LEADING DEALERS
SEND FOR BOOKLETS

CONSOLIDATED DENTAL MFG. CO.

Main Office: 130 Washington Place, New York

Chicago, 29 E. Madison St.
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Detroit, 408 Washington Arc.
Cleveland, 499 Colonial Arc.
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Specialists in removable and semi-removable bridge work.

Griswold, Morgan, Roach Bennett Bar, Fossume-semi-removable and Gilmore attachments

Porcelain bridge work.

Continuous Gum Work.

All classes of Tube tooth work.

Ash's Swaged Vulcanite Dentures, Bar Lowers, etc.

Chas. L. Daly

X. L. C. R. Dental Laboratory

ROOMS, 1, 2, 3, 4 & 5,
11 GRENVILLE STREET
—— TORONTO ——

"Your impression **OF** me will largely depend upon your impression **TO** me."—*C. L. Daly.*

"Send good Plaster Impressions and correct wax bite and leave the rest to me."—*C. L. Daly*



The above cut illustrates the Dimelow Detachable Facings at **$2.75** per Tooth, all porcelain posteriors

PARTIAL PRICE LIST FOR LABORATORY WORK:

Gold Crowns: Cen. Lat. Cus. and Bic. - - - - $2.00
Molars - - $2.25 to $2.50

Bridgework: Anteriors per tooth $2.00
Bicuspids - - - - - $2.50
Molars - - - $3.00 to $3.50
Richmonds, extra - - $ .25

Facings charged extra at market price.

Steeles and Dimelow interchangeable Facing and Porcelain
Cusp. posteriors, per tooth $2.75
Richmonds, extra - - .25
Gold Cusps. on posteriors extra .50
Facings included in above prices

Goslee and Dowel Bridgework per tooth - - - 3.00
Teeth extra

Gold Inlays
(Send wax impression packed in tissue paper)
Casting only - - - .75
Gold - - - - .05 per gr.

Rubber Dentures—
Plate Work, $2.50 to $3.00
(Partials $2 00)
Swaging metal plates (swaging only) Aluminium - - $3.00
Gold - - - $5.00

Casting Aluminium plates (cast only) - - - $4.00
Gold Plates - - - - $6.00
All teeth charged extra at market price

Send impressions (unpoured) plaster preferred, for all classes of work including metal work.

SEND A TRIAL ORDER. **SATISFACTION GUARANTEED**

When you write, give full particulars of case and when wanted.
You will not be disappointed.

CHARLES L. DALY

POUNDING IN GOLD FOIL FILLINGS

IS

A THING OF THE PAST



Nowadays the majority of Dentists all over the world use

WILLIAMS MAT GOLD

Because it enables them to make

Perfect Fillings in Half the Time

Ask any one of the Thousands of Dentists who are using it.

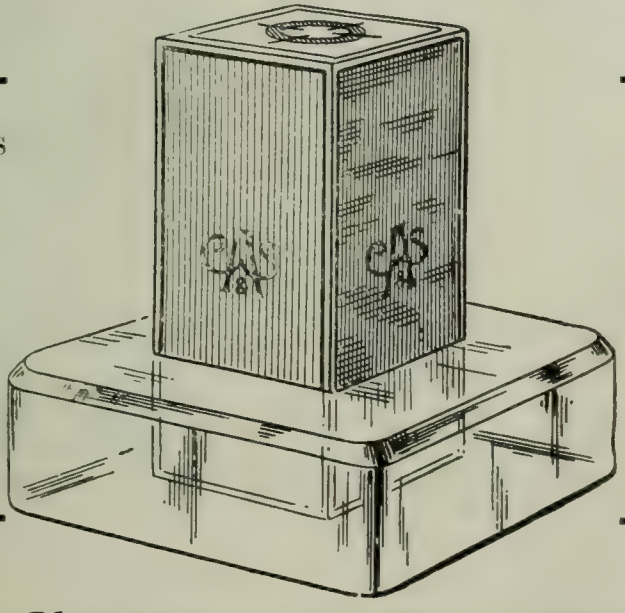
All Dealers or

The Williams Gold Refining Co.

682 Main Street, Buffalo, N.Y.

Ash's Cardboard Cartons

To fit Ash's or other makes of Metal or Glass Bases



Per package of 50, **50 cents**

The Glass separately sells for 40 cents

Claudius Ash, Sons & Co., Limited

THE PINS OF KAZAN TEETH ARE NOT OF "COMPOSITION METAL."

The gold you use for crowns and the solder you use on bridges are more truly "composition metals" than is the metal of Kazan Teeth.

We use pure nickel wire for Kazan pins, nickel wire imported from Germany, for American nickel is not pure enough. Your gold for crowns at best is but 22/24ths gold, and the solders you use are not that high in gold; the remainder is silver, copper or other metals and you have what is rightly termed "composition metal."

There are pins of teeth on the market which are of German silver, which means a composition of nickel, copper and zinc. If you have used any such you know how the sulphur in the rubber affects the copper in the metal.

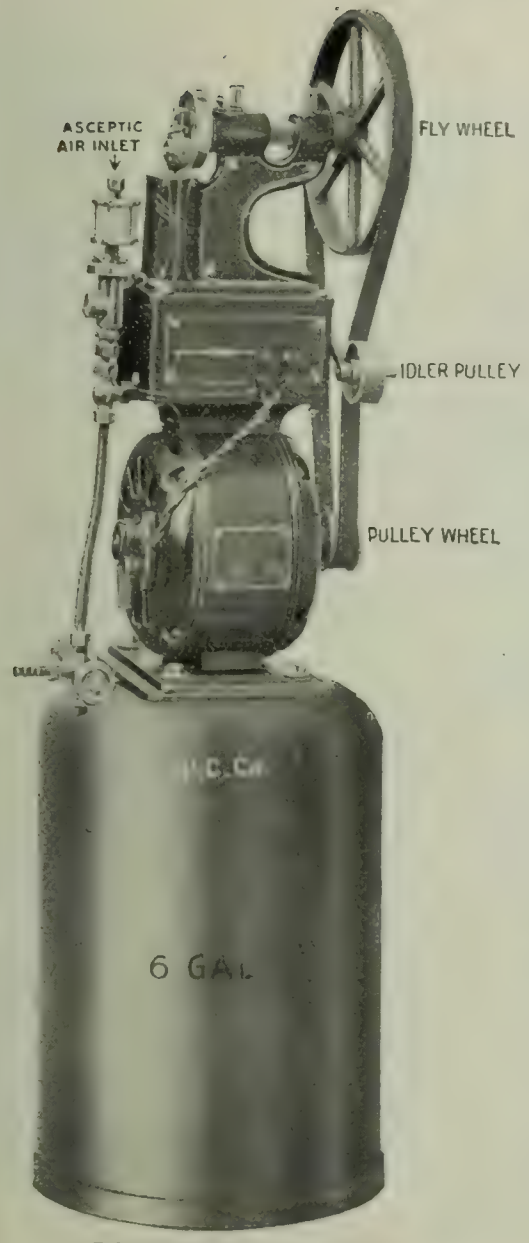
But do not confuse Kazan Metal (nickel, pure), with German silver (purely a composition metal), for they are entirely dissimilar in every way.

Nickel does not corrode nor rust; the instruments you use each day are nickel plated to prevent oxidation even when sterilized by steam. So have no fear of Kazan Pins "corroding" or "rusting" and above all,

NEVER THINK OF KAZAN WHEN YOU HEAR OF "COMPOSITION METAL."

JOHNSON & LUND

"STRENGTH"
"DURABILITY"
"EFFICIENCY"



COMPRESSOR UNIT

The real value of compressed air in Dental practice and the perfect satisfaction given by the

Pelton & Crane : Compressors :

are responsible for the rapid increase in the sale of these outfits.

A complete and practical Electric and Pneumatic Outfiit including Switchboard, Air Compressor, Hot Air Syringe, complete set of Instruments, Sterilizers, Heater, Atomizers, Illuminated Bracket Tables, in fact everything needed to bring your Equipment up to minute can be purchased on a very small investment.

Why Be Without One?

New Nineteen-Fourteen Catalog "ELECTRIC EQUIPMENT" free on request.

THE PELTON AND CRANE CO.

DETROIT, MICH., U.S.A.

GENERAL UTILITY PACKAGE



$4.50

Caulk's Crown and Bridge and Gold Inlay Cement

THIS IS THE HIGHEST TYPE OF ZINC CEMENT POSSIBLE TO PRODUCE. It is made in the largest laboratory in the world devoted to the manufacture of dental filling materials.

In that laboratory, surrounded by an elaborate equipment and all necessary appliances, every cement made has been analyzed and tested and its physical properties determined, and the claims which we made for this material are based on facts and are given without exaggeration.

FOR SETTING FACINGS, CROWNS, BRIDGES AND INLAYS it is peculiarly adapted, because of its tenacity, its strength, its fineness of powder, its hydraulic properties and its resistance to the action of saliva.

AS A FILLING MATERIAL it has every quality that insures endurance and permanence, because of the qualities above enumerated.

Its tenacity is not superficial, but endures after it has permanently set. It does not require a coat of varnish to protect it while setting, for when rolled into a pellet it may be dropped into water, after its initial setting, when it will set like stone. Its crushing strength is unsurpassed in the Zinc Cements. It is practically insoluble becaues of the elimination of soluble ingredients.

In all operations where the sedative and germicidal effects of copper are required, CAULK'S COPR-ZINC MAY BE ADVANTAGEOUSLY COMBINED WITH THIS CEMENT. The right proportion is 4 parts Crown and Bridge and 1 portion Copr-Zinc, by bulk. The copper in this preparation is of a nature to give to the combined material the full virtues of the best copper cement.

As there is a slight tendency of copper in any form to discolor, this method enables the dentist to employ copper under circumstances when it is required, and to leave it out when it is not reqiured. For setting caps and crowns on diseased roots, for filling badly decayed molars, children's teeth, and for preserving the teeth of nervous or frail patients, particularly pregnant women—whose teeth are deficient in mineral salts and peculiarly susceptible to decay—Copr-zinc should always be added in the proportions given above.

Caulk's Crown and Bridge and Gold Inlay Cement is in itself germicidal to an appreciable degree, and in all ordinary operations the addition of Copr-Zinc is not necessary.

4-shade package with Copr-Zinc Powder..... $4.50
1-shade package with Copr-Zinc Powder..... 1.50

THE L. D. CAULK COMPANY

TORONTO PHILADELPHIA ZURICH

Laboratories: Milford, Delaware

Don't Simply Suggest

"any good dentifrice" and expect patients to get definite results.

Even though you do not treat pyorrhea, you can constantly enlarge a desirable clientele by devoting more time to oral prophylaxis.

Prescribe Pyorrhocide

to be used regularly twice daily. The appreciation of grateful patients will be manifested quickly by an increased confidence in your ability and skill.

Copies of ORAL HYGIENE IN MODERN THERAPY and THE PRACTICAL METHOD OF SUCCESSFULLY TREATING PYORRHEA can also be had for the asking.

The Dentinol & Pyorrhocide Co.

World's Tower Building

110-112 West 40th Street **New York**

N.B.—Ask your supply house about the special sixty day TRIAL OFFER on Dentinol and Pyorrhocide.

INCREASE YOUR PER CENTAGE OF EFFICIENT DENTURES BY USING

JUSTI TRUE-TO-NATURE TEETH

All first-class Dental Depots will select them for your cases if you instruct them to do so

H. D. JUSTI & SON

Philadelphia **Chicago**





IF YOU WOULD AVOID forming a habit that you will never willingly break off, don't try

Fellowship Alloy

as our experience teaches that if it is once tried it is always used.

FELLOWSHIP
is the original scientifically tested Alloy, and is as good to-day as it was eighteen years ago.

If it could be made any better we would do it, but the great number of prominent dentists who have been using it continuously since it was originated testify that it is the

ALLOY PAR EXCELLENCE

Manufactured by

Dental Protective Supply Co.

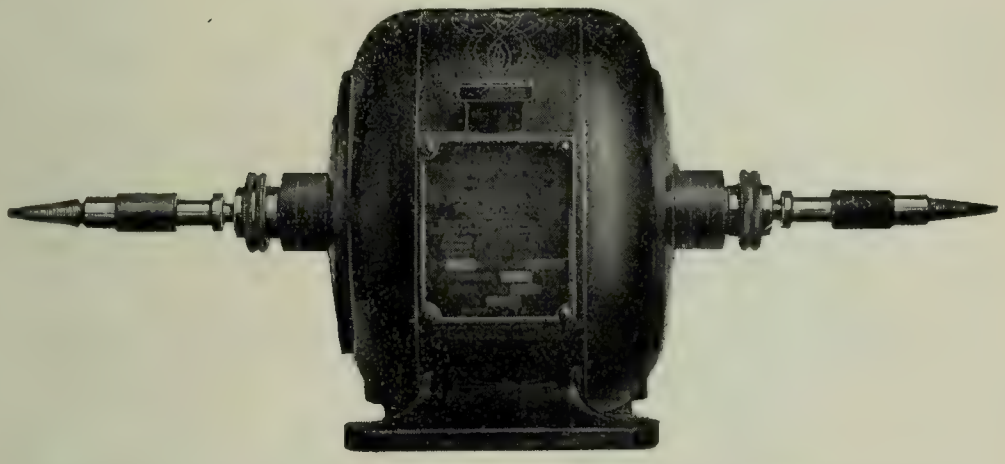
2450 Calumet Ave. - Chicago, Ill.

Sold by all Dental Dealers

STOP! HERE IS SOMETHING NEW

The Sibert Buff-Changing Chuck

Covered by Basic Patents.



Its Mission is to SAVE TIME and TIME means MONEY.

EXAMPLE.

Suppose you have a job of work which will cost you at least $1.00 to polish, and by fitting your Lathe with SIBERT BUFF-CHANGING CHUCKS, you can complete the same job for 50 cents, have you not saved 50 cents. An item certainly worth your consideration.

MERITS.

No discharging of metal points or chucks while Lathe is traveling at high rate of speed, which, if you should fail to catch, would cause injury to the operator.

The SIBERT BUFF-CHANGING CHUCK allows you to stop Buffs and Brushes and take them off with safety.

No stopping of Lathe required until you have finished your job of polishing.

No time is lost while two polishers are working at the same Lathe.

The SIBERT BUFF-CHANGING CHUCK is guaranteed, and made to fit any Lathe.

Price in Canada, $6.50.

Claudius Ash, Sons & Co., Limited

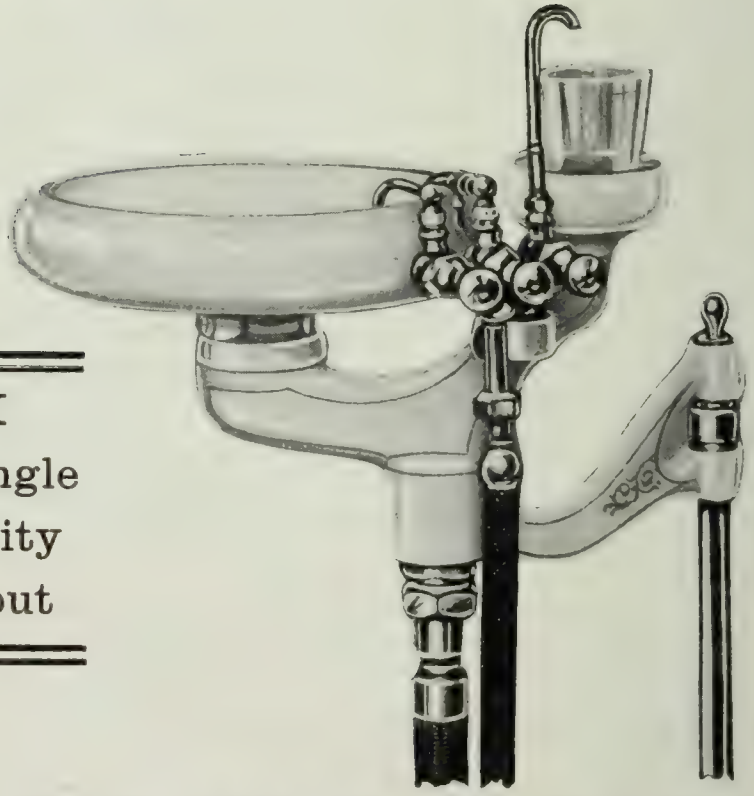
Canadian Agents, Toronto

The "Clark" is for ALL Dentists

We cater to all classes of Dentists and have spittoons of many types, with a wide range of prices, to meet all requirements.



CLARK
New Model
Double with
Finger Bowl
for the
Discriminating
Dentist



CLARK
$40.00 Single
Best Quality
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British Manufactures and British Workpeople

Notwithstanding the great disturbance to business, due to the terrible war in Europe, we are doing everything in our power to retain all our Employees during its continuance, and as we hold full stocks of all that pertains to the Dental Art, we hope we may be favoured with a large measure of support by the Members of the Dental Profession in the United Kingdom and in the Dominions Beyond the Seas.

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ASH'S INLAY and CROWN CEMENT

EXTRA TENACIOUS :: EXTREMELY DENSE :: VERY DURABLE :: NON-EXPANDING :: HIGHLY RESISTANT :: :: TO THE FLUIDS OF THE MOUTH :: ::



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¶ It has the highest non-expanding qualities which it is possible to impart to a first-class osteoplastic cement.

¶ Supplied in the following shades: White, Pale Yellow, Yellow, Pearl Grey.

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VOL. 5 No. 7

ASH'S CANADIAN MONTHLY CIRCULAR

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Dental Clinic for Troops of 2nd Contingent, Toronto.

Original Matter—

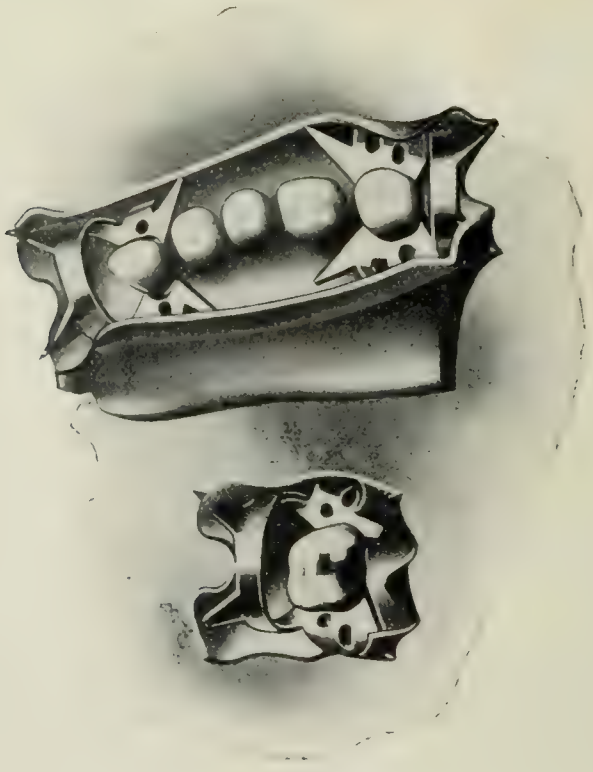
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The above illustration shows how to effectively Dam one or more teeth with a minimum amount of rubber. You can apply rubber through this simple method to many operations that in the old way are almost prohibitive.

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TORONTO, - - CANADA

Ash's Canadian Monthly Circular

VOL. V. TORONTO, JANUARY 1, 1915 No. 7

REGULATION OF THE TEETH.

By F. VINCENT DENNE, M.D. Brux., M.R.C.S., L.D.S. Eng., L.R.C.P., L.S.A., London,

Dental Surgeon to the West End Hospital for Nervous Diseases; Dental Surgeon to London County Council School Clinic, Marylebone Dispensary.

As Dental Surgeon to one of the London County Council School Clinics, my attention has been focussed for some time on the treatment of irregularities of the teeth in children, and the various problems associated with their rational treatment.

A large proportion of the cases which come under my notice, especially amongst the London County Council school children, are those with irregularities produced by prolonged retention of the temporary teeth. These being always in the anterior segment of the dental arch, are more readily noticed by the parents, who do not, as a rule, concern themselves about the grosser lesions, such as superior or inferior protrusions, unless such lesions are so pronounced as to alter the physiognomy of the child and constitute an actual deformity.

My efforts were, therefore, first of all directed to the problem of "pulling in" or "pushing out" these anterior teeth into their proper position in the arch. As a result of numerous discussions and experiments with Mr. W. F. Flote, formerly demonstrator of mechanical dentistry at the Royal Dental Hospital, Leicester Square, W.C., we have devised a method of altering the position of the teeth, as the title of this paper indicates, by means of the tractive and repulsive power of spiral springs. This method possesses many practical advantages of its own, whilst supplementing existing methods. Moreover, it allows certain of the teeth to be easily and rapidly moved—a process hitherto difficult of attainment.

The method may possibly have been attempted before, although, after a careful examination of the literature of the sub-

ject, I have failed to discover any record of a series of cases treated by similar means. From the cases under my care I have selected a few typical examples illustrating the commonest forms of irregularities. They show the various movements effected by the appliance leading to successful results, as well as the mechanical means by which such results have been produced. And I wish to draw attention to certain details of my method which are, I believe, entirely new. It is hardly possible in the course of a brief paper to enter into the minutiæ of the technique employed, but this I propose to give in a short explanatory pamphlet. I may add that the appliances required are being made by Messrs. Claudius Ash, Sons & Co., Ltd.

Case I.—Outstanding lateral incisor. Arthur Holliday. History of case: Aged 11 (eleven). Bottle baby; dummy sucker. Mal-position produced by retention of temporary tooth, and increased by impinging on lower lip.
Vulcanite plate was made covering molars and premolars.

A metal plate carrying two eyelets was vulcanized in the plate in line with tooth.

A German-silver collar was fitted to the tooth, on which, on the lingual side, a small tube was soldered horizontally. Through this tube an attachment bent at right angles on the end of a bar was passed. This bar was screwed and fitted with a nut and spring, and placed in position through the two eyelets on the plate. The appliance was worn for ten weeks, at the end of which time the incisor was pulled back into its normal position.

Case II.—Instanding central incisor. (P.) This was locked inside the lower teeth.

Vulcanite plate, with metal plate carrying two eyelets vulcanized in it, was made as in last case.

A bar with screw end, and a nut with spring fitted between the eyelets, was placed through the eyelets, impinging on the centre of the lingual surface of the tooth.

This appliance was worn for four months, at the expiration of which time the incisor had reached a position in line with the lateral incisor. This case is not quite completed, as the right central incisor requires regulating.

Case III.—Superior protrusion without contraction of the arch. History of case (C): Breast-fed; dummy sucker three years.

A length of round German-silver wire was cut to reach from molar to molar outside the arch, and the ends screwed for ⅝-inch.

This wire was bent to fit the arch, and two lugs were soldered in the centre to lap over the tips of the central incisors to prevent the wire slipping up towards the gum.

On each side there were two attachments to be used for carrying the wire, which were vulcanized into the plate in the molar region.

Between these attachments a gold spiral spring was fitted, and in front of the distal attachment a small nut was placed for adjusting the spring.

This appliance was worn for six months, and the result was most satisfactory.

Case IV.—Superior protrusion with contracted arch. History of case: J—— C——, aged nine years. Bottle-fed almost entirely; dummy sucker for 18 months.

A round wire was cut, as in the preceding case, to reach from molar to molar on the buccal side, and the ends screwed for ⅜-inch and a nut attached at each end. A lug with hole was soldered 1 inch from each end, and lugs were soldered on the front to engage the incisive edge of the central incisors.

Two wires were then cut to extend from the postero-external angle of the plate round the outside of the teeth as far forwards as the canines. These wires were vulcanized into the plate, and when in position were passed through the holes in the lugs on the bow.

Between the lug on the wire which was vulcanized into the plate and a nut placed on the bow, a spiral spring was fitted.

I here wish to draw particular attention to the mode adopted of expanding the arch. The two halves of all the expansion plates in general use are unsatisfactory, and, with the possible exception of Schelling's, open parallel. In this plate you will observe by means of a hinge joint, similar to that used in an ordinary footrule, uniting the two halves of the plate posteriorly, the expension increases from the joint in an anterior direction, so that the effect of the expansion is much more pronounced in the premolar area, where it is frequently most needed.

In the palate of the plate, in the region of the canines, two metal plate were vulcanized, each plate having an eyelet soldered on to it.

Through each of these eyelets was passed a bar having a head on one end to prevent it slipping through the eyelet, and the other end screwed, with a nut attached and a double collar (the eyelet passing between the two collars). The spiral spring on the bar works between the eyelet and the nut.

This appliance was worn for six weeks, and the result was very good.

Case V.—Inferior protrusion associated with contracted arch. History of case (J): Girl eight years old, one of eight in family. The dentition in all the other members of the family is normal.

A similar plate was made for the maxilla for the expansion as in the previous case, with a hinge at the posterior of the plate; but in addition a piece of metal extending from the rubber palate, overlapping the incisor edge of the lower incisors, was inserted. Soldered to the plate in the canine region were two eyelets carrying the bolt and springs, as in the previous case.

Both in this and the previous case the plate was sawn through after it had been worn for a few days.

This appliance was worn for four months, with excellent results

Case VI. (D).—Butcher, aged eleven and a half. Almost entirely bottle-fed; no dummy.

All the permanent teeth from the first molar are in position, with the exception of the right upper second premolar.

There is general crowding of the anterior teeth, with the right maxillary canine outstanding from the arch, and the left upper central incisor is overlapping the right.

The four first premolars and right upper second temporary molar were removed on January 13th, 1914.

A vulcanite plate was made to cover the palate. It extended as far back as the posterior border of the first molars, but did not extend over their occlusal surfaces. A space was left between the anterior border of the plate and the lingual surfaces of the anterior teeth.

A wire was vulcanized into the plate and bent so as to impinge on the lingual surface of the four incisors to prevent them from moving backwards.

Vulcanized into the plate on the right side was a bar with a loop at its free extremity which extended round the posterior surface of the molar as far as the buccal fissure, and a similar one was made round the anterior surface of the second premolar. Passing through the two loops on the buccal surface a forked bar carrying a spiral spring was placed, on the long arm of which was fitted a nut and screw for adjusting the spring.

On the single end, or handle of the fork, a lug was soldered for embracing the canine on its mesial surface. The handle of the fork on the left side was prolonged as far forward as the central incisor on that side. Three lugs were attached to this bar for engaging the central incisor, lateral incisor, and canine to retract them.

This appliance has been worn for three months, and although the treatment is not yet quite completed, the result promises to be favourable.

In conclusion, I should like to enumerate the advantages of this method.

1. The action is continuous, and consequently rapid in effect, which reduces to a minimum the period during which an appliance need be worn.

2. The appliance is very easily regulated by the patient, the discomfort of intermittent tightening is avoided, and the number of attendances is reduced.

3. It is not unduly cumbersome.

4. It is easily fitted.

5. It is easily kept clean.

6. It can be adapted so as to deal with the position of any tooth.

Ash's Repair Facings

Made in the patterns shown in booklet which can be had on application, and supplied in sets of 6, sets of 4, pairs and odd.

The three sizes here illustrated are intended to show the distinctive feature to which we wish to draw attention, viz., the oval cavity in the back of each.

They can be used for repairing nearly every kind of denture; they are easily applied, exceedingly durable, and can be quickly fitted—it does not take longer than from 10 to 15 minutes to fit one.



83



71



14

They are invaluable for repairs to Bridges, and in all cases of Plate and Crown work in which a flat tooth has to be replaced.

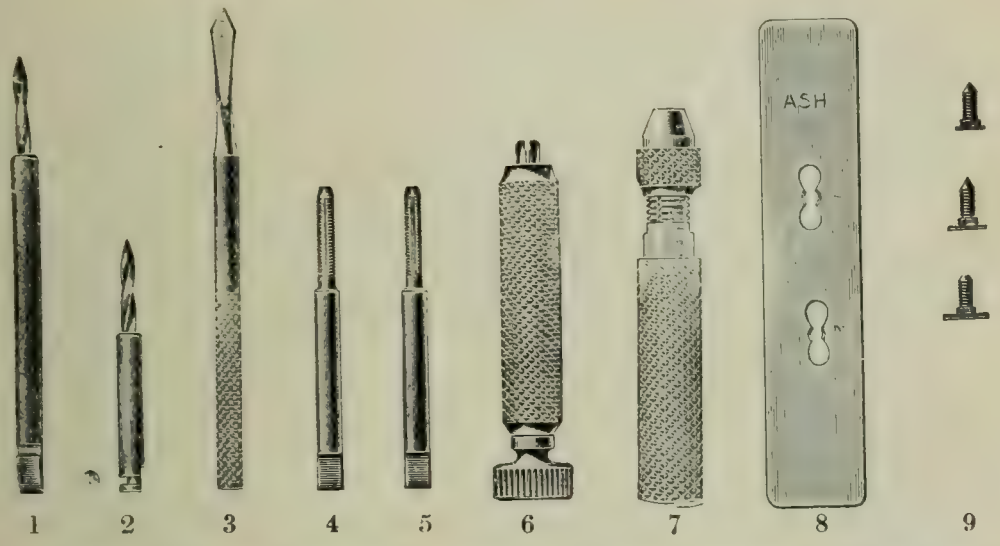
The oval cavity at the back of each Facing corresponds with the positions of pins in our Flat Pin Teeth. The Facings do not require backing, but can be applied to the backings of fractured or broken teeth when the broken portions of mineral have been removed from the backings.

IMPORTANT NOTE.

For attaching these Repair Facings to teeth backings, etc., we recommend our **C.A.S. Cement**, or our **Inlay and Crown Cement.**

Ash's Repair Facing Outfit

Suggested by MR. H. J. CORIN, L.D.S. Eng.



Figs. 1 and 2, Twist Drills for Straight and Right Angle for drilling hole in backing.
Fig. 3, Countersinking Tool for removing burred edge and countersinking the hole.
Figs. 4 and 5, Screw Taps, large and small.
Fig. 6, Holder for carrying Gold Stud and screwing it into position.
Fig. 7, Holder for carrying small and large Screw Taps, Figs. 4 and 5.
Fig. 8, Screw Plate for the Dentist's use in making his own Gold Studs, should he desire to do so.
Fig. 9, Small, medium, and large Gold Studs.

DIRECTIONS FOR USE:

In the event of a tooth breaking off a bridge or a plate and bringing away with it one of the pins, leaving the other standing in the backing, cut off the standing pin, grind the backing flat with a small carborundum point, drill a hole in the centre of the backing, remove the burred edge formed by the drill, with the countersinking tool, tap the hole with the small tap (Fig. 5), follow on with the large tap (Fig. 4); again clear away the burred edge with the countersinking tool, fix the stud selected in holder (Fig. 6), and screw it into position right up to the shoulder. The case is now ready for the Repair Facing to be cemented on the stud.

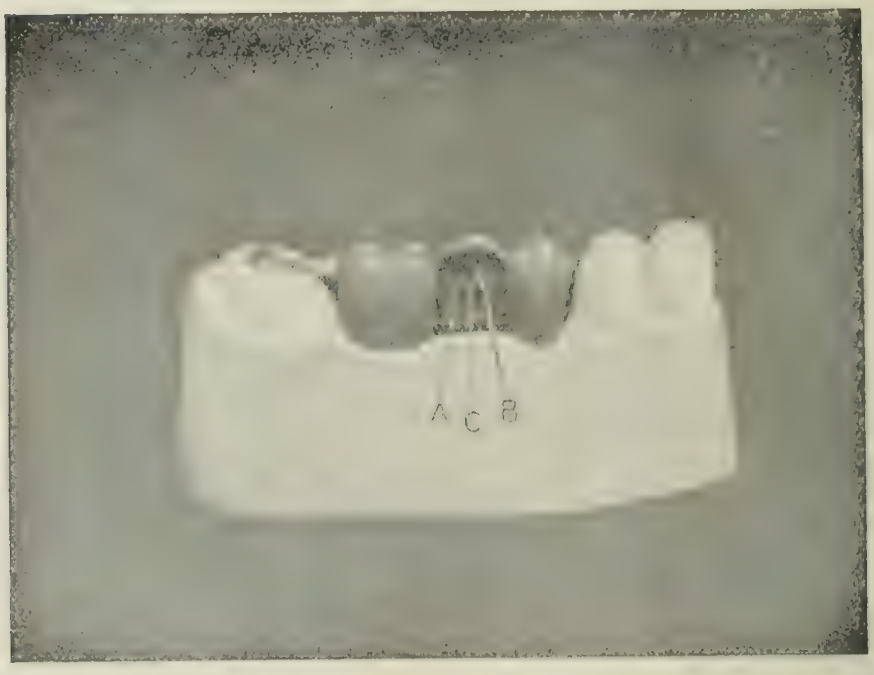
To cement a Repair Facing on the Stud.—Select a Repair Facing of the same size as the broken-off tooth, remove all traces of wax from it, thoroughly cleanse it and the backing with chloroform or pure alcohol; mix C.A.S. Cement or Ash's Inlay and Crown Cement to a thin creamy consistency, smear the backing and the back of the Facing with it, also fill up the undercuts in the oval cavity of the Facing, press the Facing to place, hold it firmly in position for four or five minutes, then trim away excess of cement and coat the exposed edge with Ash's Varnish.

NOTES.

1. The method described above is applicable when both pins come away with the tooth.

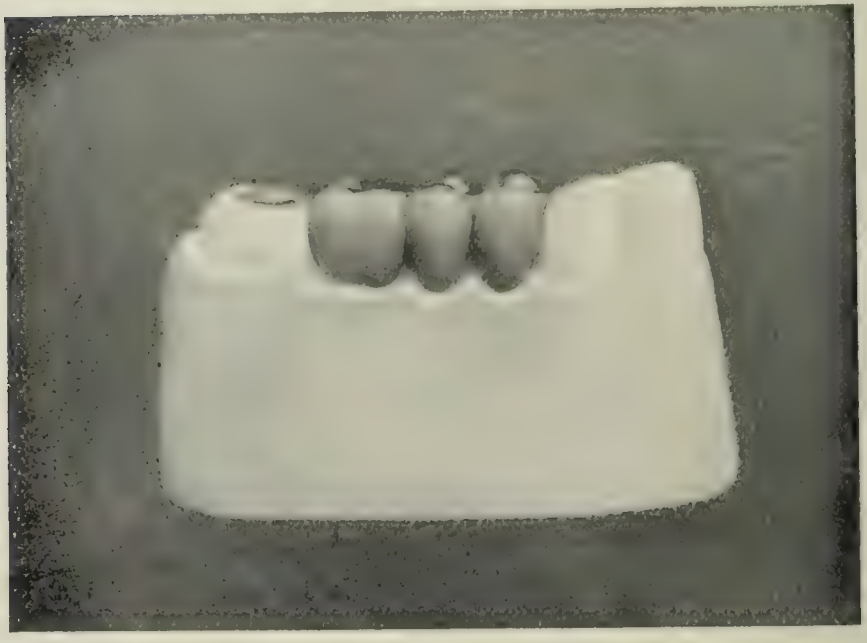
2. Should both pins be left standing, in the space left by a broken-off tooth, a Repair Facing can be cemented on them.

Ash's Repair Facing Outfit—*Continued*



A—Broken Pin. B—Pin left standing

C—Spot where new hole should be drilled and tapped.



Repair Facing cemented on to Stud.

Ash's Repair Facing Outfit—*Continued*



PRICES

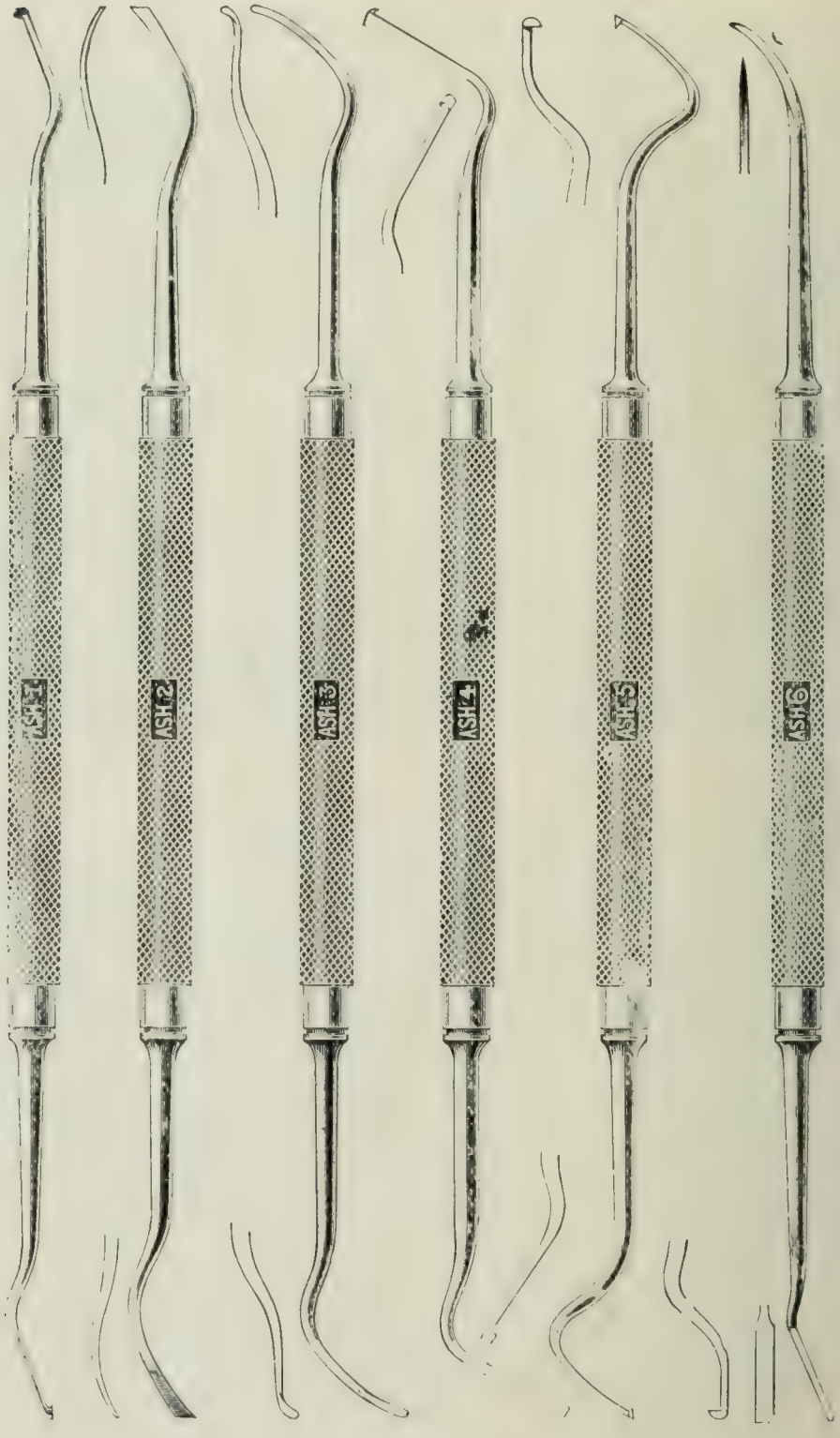
Repair Facing Outfit as per Illustration -	$5.00
Repair Facings, each - - - - -	.18
Extra Gold Studs - - - - - -	.40

Send a Mail Order NOW for one of these valuable Repair Outfits and be ready for the next case of repair : : : :

Claudius Ash, Sons & Co., Limited

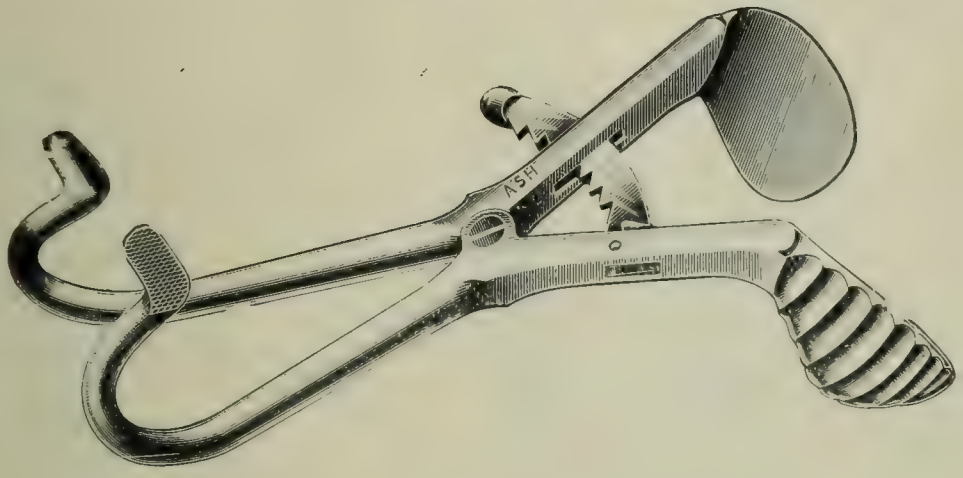
GLOBE PYORRHOEA SCALERS

SET OF SIX DOUBLE ENDED



In Knurled Handles, Nickel-plated, each 40c. Per Set $2.50

BUXTON'S GAG



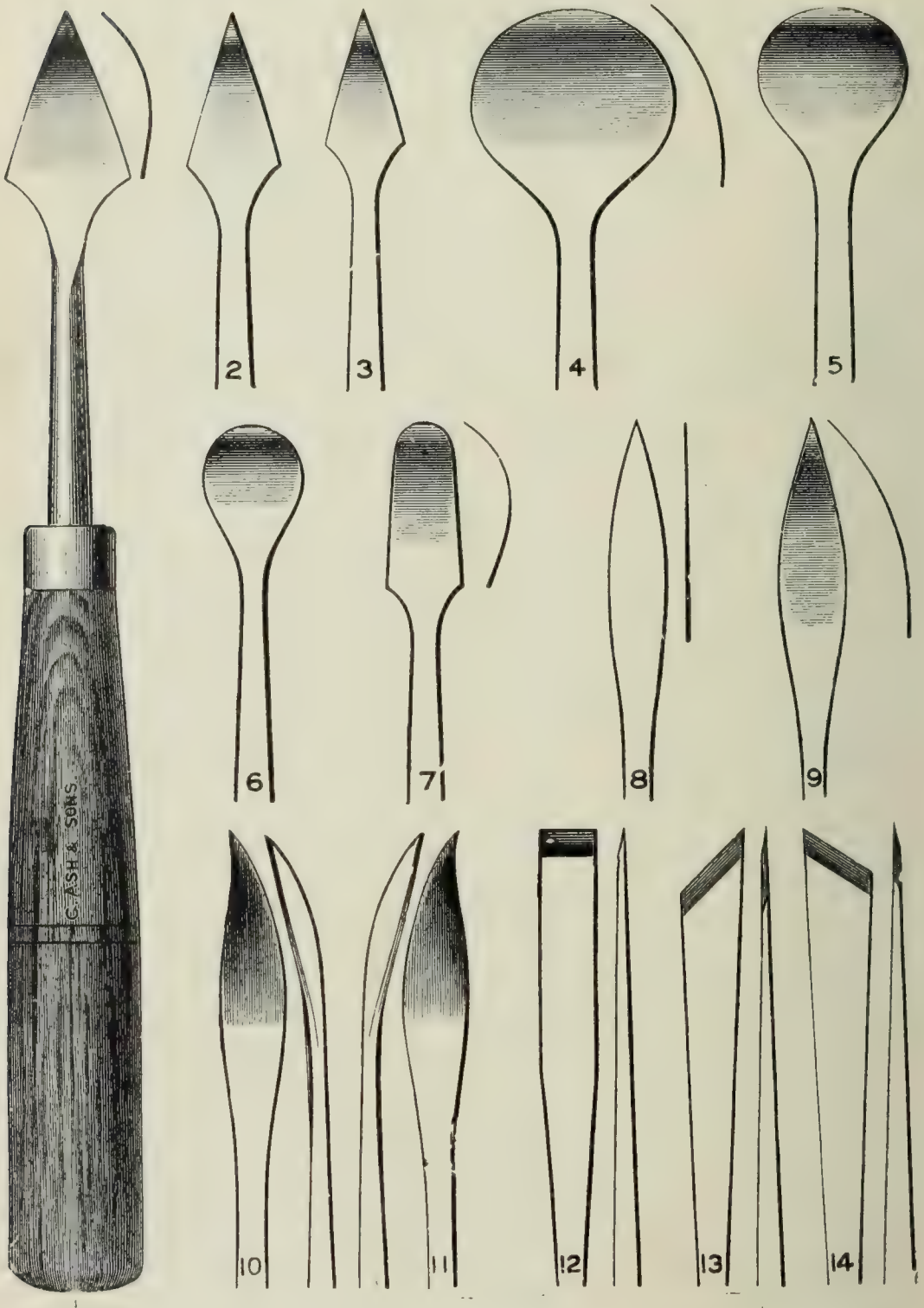
This Gag has long been the premier article of its kind. It is strong and durable. Will retain itself in the mouth and the handles are out of the way of the operator.

In addition to being a perfect Gag, it is most useful as a mouth opener, as the beaks are so constructed that one falls below the other and they can be forced in between the upper and lower teeth.

PRICE - - - $4.50

Claudius Ash, Sons & Co., Limited

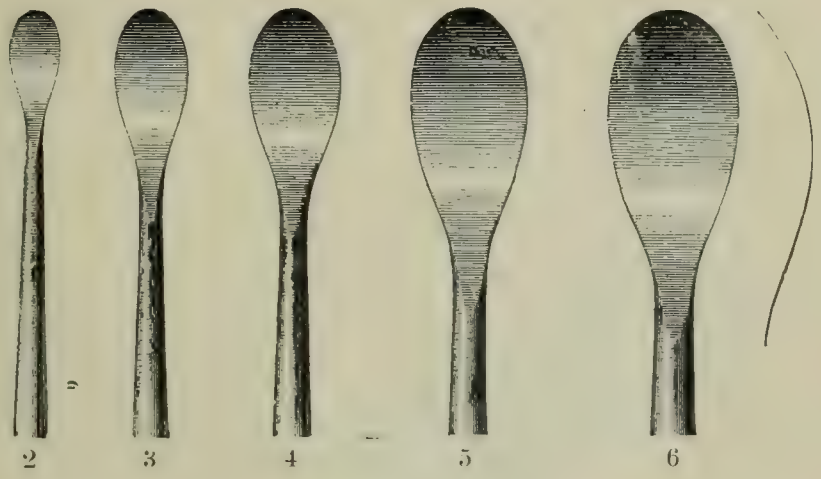
VULCANITE SCRAPERS



PRICE, any size or shape, in wooden handle like Fig. 1 - - 35 Cents



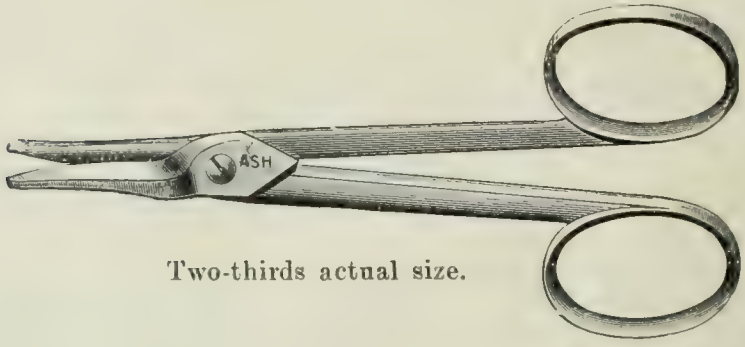
KINGSLEY'S VULCANITE FINISHERS



The illustrations show the full size of each blade Fig. 1 shows the full length of each with handle; and the outline on the side of Fig. 6 shows the curve of the blade.

In Polished Steel, with Wooden Handles
(Figs. 1 to 6) each 35 Cents

Universal Plate Scissors



Two-thirds actual size.



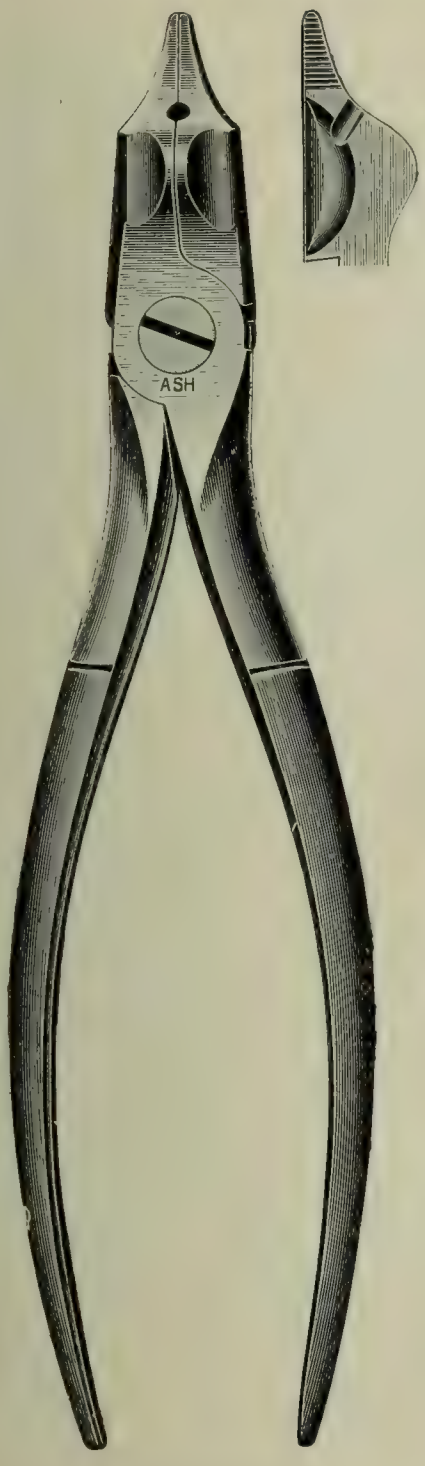
Greatly reduced size.

This greatly reduced size illustration gives a very good idea of the power which the operator possesses in cutting metal to any form with the Universal Scissors

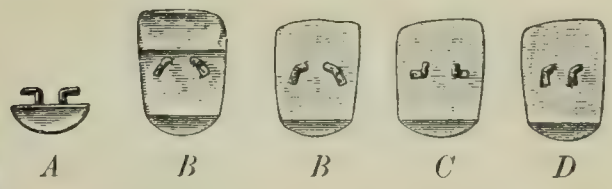
Scissors, 4½ in. long, Nickel-plated - $1.60

Claudius Ash, Sons & Co., Limited

Ash's Pin-Roughing and Bending Pliers



Full size.



This is the most useful tool ever devised for cutting, roughening, and bending the pins of flat and vulcanite teeth.

To obtain the best results the pins should be bent as nearly as possible at right angles—see Fig. A—and in such a direction that they will grasp the vulcanite in the thickest part. In the several illustrations given above, Fig. B shows the most usual bend.

Pliers, as illustrated, nickel-plated, $1.50

Ash's Clayite



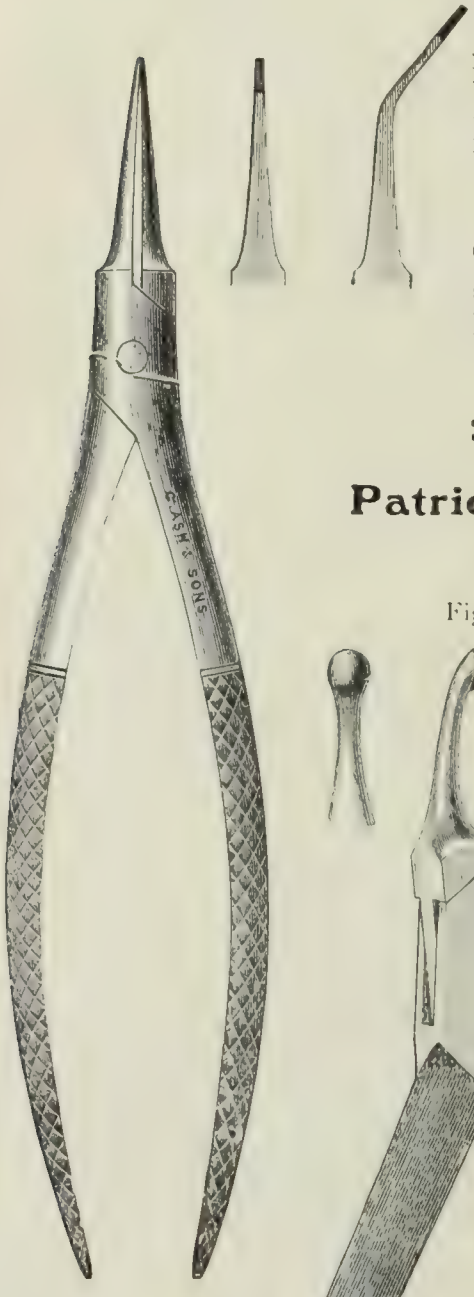
A large tin of the most satisfactory Moulding Compound for 35 Cents.

Its sale is world-wide and the satisfaction is complete.

Ash's Nerve Canal Pliers

Straight and Curved

For Removing Broken Drills from Root Canals



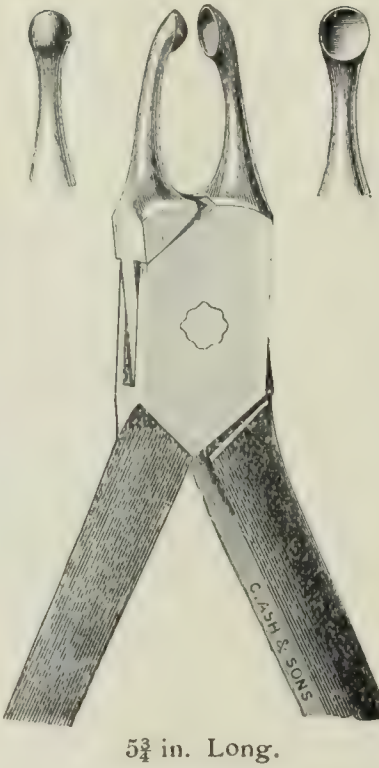
In preparing root canals for filling it sometimese happens that a drill is broken, and the question then arises how the piece left in the root can best be extracted.

The points of these Pliers are fine enough to enter the root canal and to grasp the thin stem of the broken point that is lodged within it.

Price, Straight or Curved, $1.35.

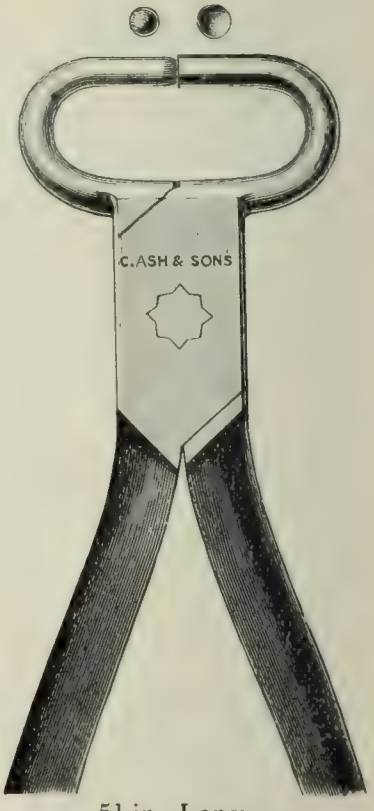
Patrick's Contouring Pliers

Fig. 1.



$5\frac{3}{4}$ in. Long.

Fig. 2.



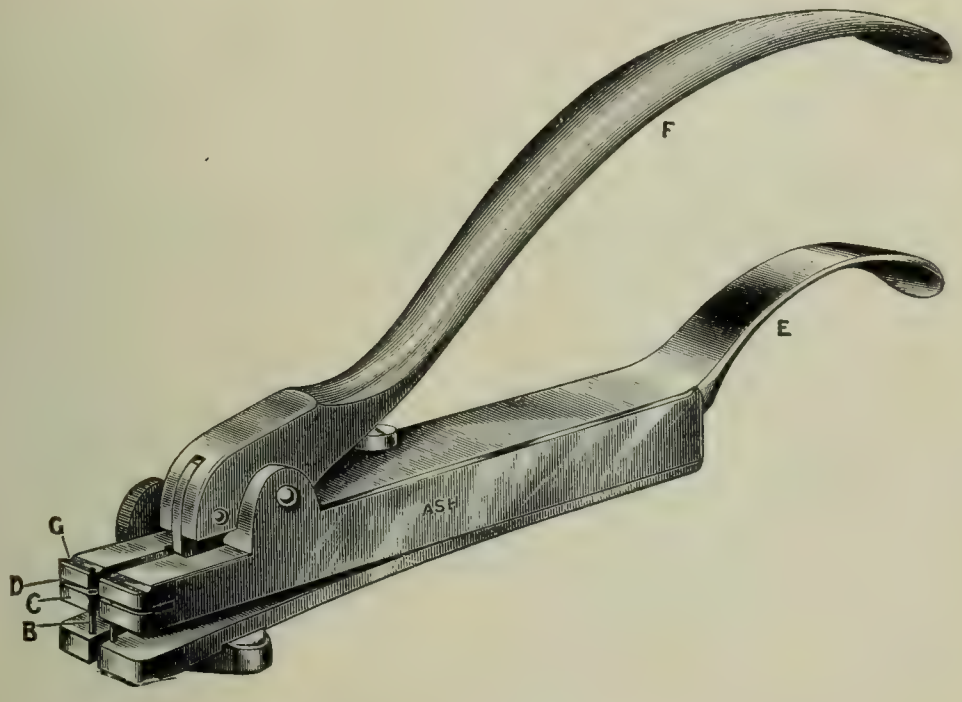
$5\frac{1}{2}$ in. Long.

These Pliers are too well known to need an elaborate description. Pattern No. 2 finds the most favour. It should find a place in every laboratory.

Price either pattern $1.90

Young's Adjustable Perforators

FOR PUNCHING TWO HOLES AT ONCE.



A—Screw which holds the back plate that clamps the pins.
B—Pins.
C—Intermediate Plate with holes that supports and stiffens the pins.
D—Slotted recess into which the metal backing is placed.
E—Lower Level.
F—Upper Level.
G—Groove in upper plate with holes into which the tooth to be backed before punching the backing.

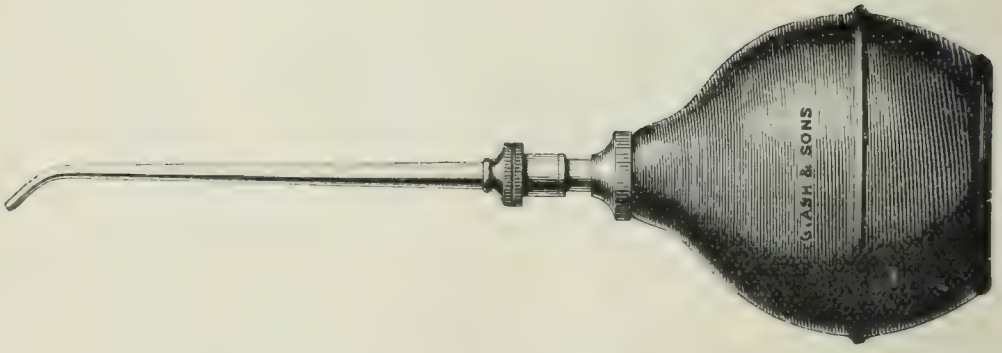
Mr. Young claims that his tool secures, rapidly and with mathematical precision, exact correspondence between the holes in the metal plate used for backing teeth, and the pins of the tooth to be backed. It provides also for the quick and easy disengagement of the plate from the perforating pins after punching. The difficulty of separating, without twisting or injuring the perforated plate (the greatest obstacle to punching two holes at once), is entirely removed.

The risk of fracture in backing teeth is reduced to a minimum.

No measuring is required. The tooth is its own gauge, virtually punching its own holes.

Price, with Set Screw..... $4.50

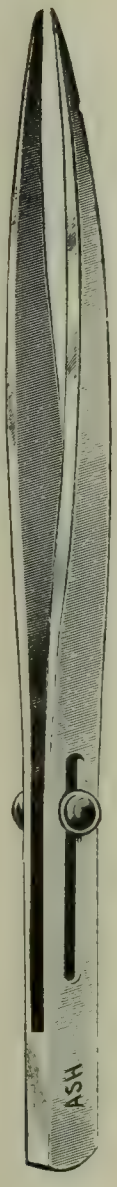
Ash's Fig. 2 Chip Syringe



This Chip Syringe has been so long and favourably known that it needs no further description.

Price.....85c.
Extra Bulb.....45c.

A complete stock of our many patterns of Bulb and Metal Syringes constantly kept in stock.



INLAY TWEEZERS

With very fine points and sliding locks.

Each.....40c.

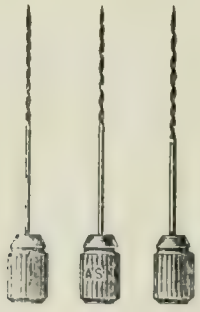
VULCANITE BROACH HOLDER

This instrument is strong and well made and is of much nicer appearance than the ordinary brass or bone holder.

Each.....30c.



Globe Broaches

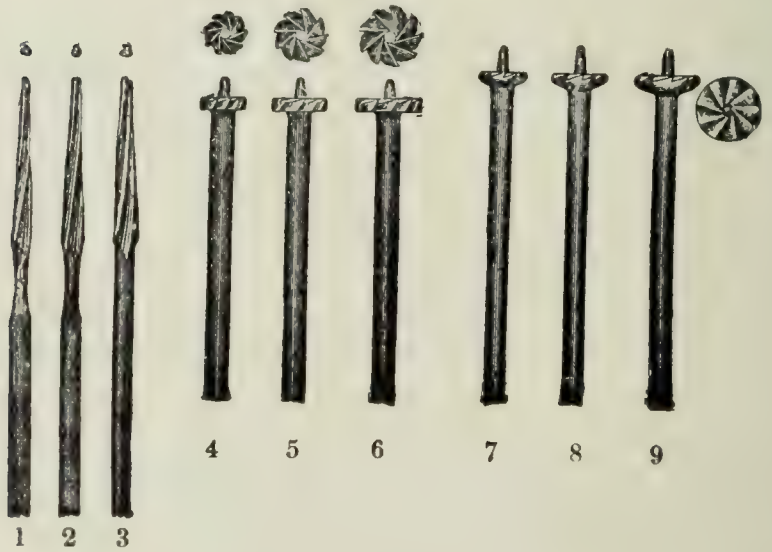


A Short Twisted Broach, most useful for operating on Molar Teeth.

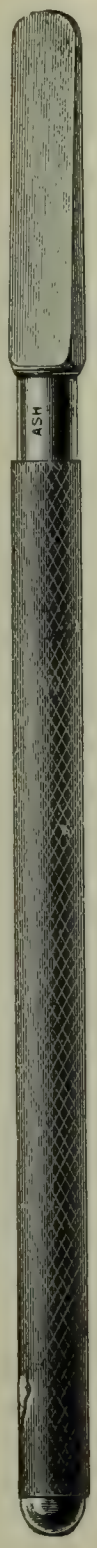
Per dozen.....$1.50

Ottolengui's Root Reamers and Facers

For Enlarging Root-Canals and Shaping Roots for Crowns.



Reamers for No. 4 or 7 Handpiece, Figs. 1, 2, 3	each	40c.
Root Facers for No. 4 or 7 Handpiece, Figs, 4, 5, 6	"	60c.
Safe-sided Root Facers, Figs. 7, 8, 9	"	60c.



Agate Spatula and Burnishers

The Agate Spatula is most essential to the successful manipulation of Silicate Cements. It is the best Spatula for use with any kind of cement.

Immediately after using immerse in water to prevent cement hardening.

PRICES

Fig. 20, Double Head	$1.10
Double End Agate Plastic Instrument	1.10
Single End Agate Burnisher	.70
Single End Agate Spatula	.70
Single End Tortoise Burnisher	.45
Double End Tortoise Burnisher	.90

SANITARY AND NEW

Sterilised

Celluloid Mouth Tubes

FOR USE ONCE ONLY

Each tube is sterilised with Permanganate of Potash, the coloring matter is removed and the tube is at once enclosed in the envelope in which it is supplied.

The moderate price at which it is supplied allows of its destruction after it has been used once.

The sanitary value is obvious.

The form of Mouth Tube No. 5 does not permit of tissue being drawn into the tube.

Box of 50 - $2.60

Claudius Ash, Sons & Co., Limited

A LOW PRICED NERVE BROACH

OF GOOD QUALITY

In order to meet the demand of many of our customers for a low priced Broach to supplant the German article, we have put on the market

Ash's Popular Broaches

$5.50 Per Gross
$10.00 Per 2 Gross

These instruments are guaranteed and will give you satisfaction.

Made in XXX Fine, XX Fine, Extra Fine, Medium and Assorted. Also in Plain Medium.

Claudius Ash, Sons & Co., Limited

ENGINE BURS
AT LOW PRICES

As the low price German make Burs are not now obtainable, we have, at the request of many customers, placed on the market,

Ash's Special Burs

For No. 7 H.P. and No. 2 R.A. at the following prices.

Sizes 1/2 to 7. 33½ to 40 in plain and cross cut at $5.00 Gross.

Sizes 8 to 11. 41 to 44 in plain and cross cut at $7.00 Gross.

These are British made Burs, the product of our own factory.

Claudius Ash, Sons & Co., Limited

One Less Step Left to Chance!

Send us a Mail Order for a

Shoemaker-Miller
Inlay Investment Mixer

and ensure uniformity in the mix of your Inlay Investments.

The most thorough and modern way of mixing Inlay Investments, doing away with the small bubbles that interfere with the perfection of casting and fit.

PRICE - $1.25

Claudius Ash, Sons & Co., Limited
TORONTO

Puscure. What is it?



It is an Abscess Cure and Root Canal Filling. It cures an abscess for all time. No sore teeth, no come-backs in trouble, no work to do over.

How does it do the work? Puscure is about twenty times as strong as carbolic acid, is non-poisonous, non-coagulant, non-irritant.

The Secret

Puscure is hygroscopic and its great affinity for alkaline fluids causes it to mix instantly and chemically unite with the fluids in the canal, but more important is, it mixes with the fluids in the *Tubuli*—do you get this remarkable point? It is the only remedy known to Dentistry that will sterilize the contents of the tubuli. No other known remedy does or can mix with the fluids in the tubuli. If you have never used Puscure, one box will convince you that all the claims made for it are absolutely true—one box will prove it. Puscure is used by dentists in every country in the world and demand increasing. It has not been advertised, then why this constantly increasing demand? Merit of superior quality. One dentist tells another, that is the story of Puscure.

Price in Canada - $1.75

The Puscure Co., - Louisville, Ky.

SOLE AGENTS IN CANADA

CLAUDIUS ASH, SONS & CO., Limited

E. C. HUME
Dentist

714 The Atherton Building.

Louisville, Ky., June 18, 1914.

To Whom it May Concern:

I have made a series of Radiographs for Dr. Blair which he says were treated with **Puscure,** and as yet I have failed to find an abscess blind or fistulous.

Respectfully,
E. C. HUME, D.D.S.

We are having some hundreds of Radiographs made of teeth in which **Puscure** was used. Cases from three to ten years duration, not one of them show disease of any kind. Absolutely healthy in appearance, not a sore one in the lot. These pictures tell the story.

DR. P. H. WOOD
Dentist

177 Brighton Ave.

Allston, Mass., November 9, 1910.

The Puscure Co.

Dear Sirs:—

Both packages received at nearly the same time, the delay being caused by first package not being fully addressed, and I assure you that it was gladly received.

I find after careful use and by closely following directions, that "**Puscure**" is all that you claim for it. I have used it on nearly two hundred cases in the past year, and have recorded every case, and not one has returned to me in which "**Puscure**" was to blame.

I would not be without it in my practice, and I often wonder now how I managed before without it.

Respectfully yours,
P. H. WOOD.

First Letter.

DR. P. H. WOOD
Dentist

177 Brighton Ave.

Allston, Mass., November 9, 1913.

The Puscure Co.

Dear Sirs:—

In reply to yours of October 23, I must say that I am still using "**Puscure**" and would not be without it in my office. My percentage of failures are very small, which I do not lay to "**Puscure.**" I must frankly admit that in some cases it has worked wonders for me.

Respectfully yours,
P. H. WOOD.

P.S.—Kindly mail as soon as possible one package of "**Puscure**" and I will remit check.

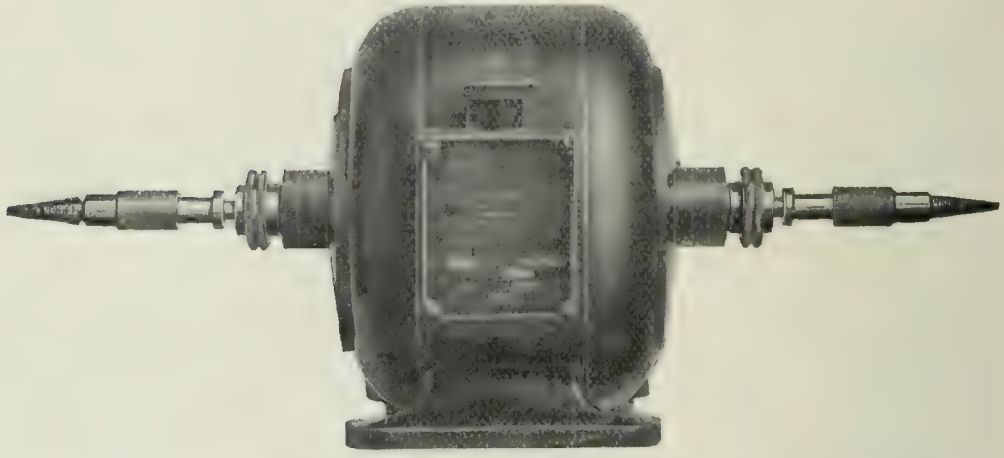
P. H. WOOD.

Second Letter, after three years' use of "**Puscure.**"

STOP! HERE IS SOMETHING NEW

The Sibert Buff-Changing Chuck

Covered by Basic Patents.



Its Mission is to SAVE TIME and TIME means MONEY.

EXAMPLE.

Suppose you have a job of work which will cost you at least $1.00 to polish, and by fitting your Lathe with SIBERT BUFF-CHANGING CHUCKS, you can complete the same job for 50 cents, have you not saved 50 cents. An item certainly worth your consideration.

MERITS.

No discharging of metal points or chucks while Lathe is traveling at high rate of speed, which, if you should fail to catch, would cause injury to the operator.

The SIBERT BUFF-CHANGING CHUCK allows you to stop Buffs and Brushes and take them off with safety.

No stopping of Lathe required until you have finished your job of polishing.

No time is lost while two polishers are working at the same Lathe.

The SIBERT BUFF-CHANGING CHUCK is guaranteed, and made to fit any Lathe.

Price in Canada, $6.50.

Claudius Ash, Sons & Co., Limited

Canadian Agents, Toronto

PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice, Walkerton, Ont. Apply Dr. F. Hughes, Waterloo, Ont.

FOR SALE—Dental Practice, Windsor, Ont. Apply Ash & Sons

FOR SALE—Dental Practice, St. Stephen, N.B. Apply Ash & Sons

FOR SALE—Dental Practice, Langham, Sask. Apply Ash & Sons

GRADUATE ASSISTANT WANTED—New Brunswick. Must be Experienced. Apply Ash & Sons.

GRADUATE ASSISTANT WANTED—Ontario. Apply Ash & Sons.

SECOND-HAND GOODS

1 Leighton-Jackes Overhead All Cord Engine, 110 V., 60 Cycle, with Doriot H.P. - - - - - - $80

1 S.S.W. Pattern Chair, Leg Base - - - - - - 30

1 Special Golden Oak Cabinet with Mirror and Medicine Top, practically new - - - - - - - - 60

1 Davis Gasometer, less Face Piece and Tubing, excellent condition - - - - - - - - - - 18

1 Davis Gasometer
1 Mills Centrifugal Casting Outfit } - - - - - - 25
1 Olivian Swager

1 Large G. O. Cabinet. A-1 condition. A bargain - - 60

1 Davis Vulcanizer. Good condition - - - - - - 10

1 Ritter Overhead All Cord Engine, 110 V., D.C. - - 75

1 Clark Cabinet
1 Case Chair } - - - - - - - - - 30

1 Elcctro Dental Water Glass Heater - - - - 9

2 Ritter Battery Engines. New. Will sell cheap.

1 S.S.W. N.-M. Wilkerson Chair and Fountain Cuspidor - 150

Claudius Ash, Sons & Co., Limited

YOU SHOULD USE
WILLIAMS MAT GOLD

BECAUSE



It makes the best fillings.

It saves time.

It is easier on the patient.

It is easier on the operator.

It makes better margins.

It makes denser fillings.

It does not rock, ball up, or crumble.

It does not need to be annealed.

All dealers carry a stock of WILLIAMS MAT GOLD and they are not afraid to recommend it because they know that there will be no troublesome "come-backs" on it. Try it and if you do not like it the trial will be at our expense.

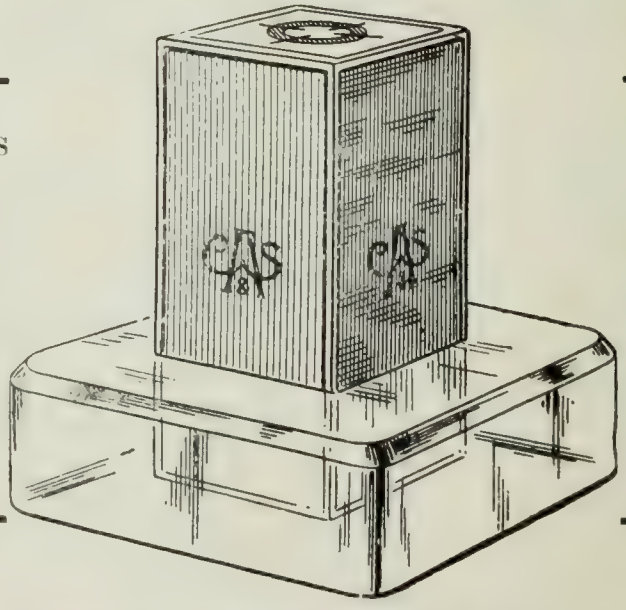
All Dealers or

The Williams Gold Refining Co.

682 Main Street, Buffalo, N.Y.

Ash's Cardboard Cartons

To fit Ash's or other makes of Metal or Glass Bases

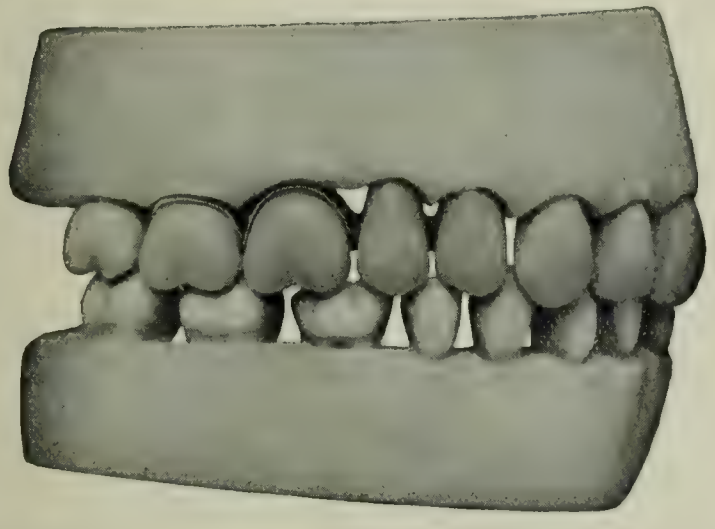


Per package of 50, **50 cents**

The Glass separately sells for 40 cents

Claudius Ash, Sons & Co., Limited

GOSLEE
Crown and Bridgework
The Standard of Modern Dentistry



THE SIMPLICITY OF ITS TECHNIQUE, THE FULL PORCELAIN CUSP, THE LIFE LIKE APPEARANCE, THE ABSENCE OF GOLD, THE LOWER COST, THE UNUSUAL STRENGTH, THE INTERCHANGEABLE FEATURE, ARE ONLY A FEW OF THE ATTRACTIVE ADVANTAGES, MAKING THE GOSLEE TOOTH SO POPULAR IN THE PRACTICE OF **MODERN DENTISTRY.**

FOR SALE BY LEADING DEALERS
SEND FOR BOOKLETS

CONSOLIDATED DENTAL MFG. CO.

Main Office: 130 Washington Place, New York

Chicago, 29 E. Madison St.
Philadelphia, 1419 Real Est. Tr. Bldg.
Boston, 120 Boylston Street
Detroit, 408 Washington Arc.
Cleveland, 499 Colonial Arc.
New York, 45 West 34th Street

AS A TIME SAVER

Fortify your patients with Horlick's Malted Milk, Hot

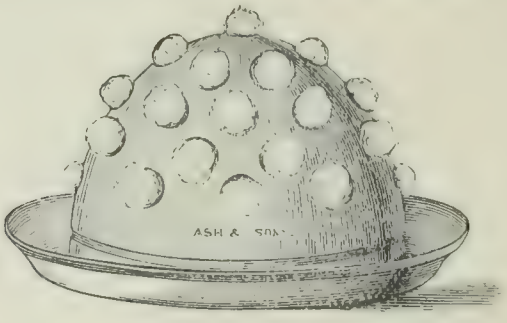
Horlick's Malted Milk

One Tablespoonful
Hot water to make a cup
Sugar sufficient to sweeten

(Use Speedy Mixer, sent prepaid upon request)

NERVOUS PATIENTS will find it nourishing and soothing. It saves the operator's time as well as any discomfort to patient.

Cutriss Cotton Pellet Holder



The difficulty of picking up one pellet at a time with the tweezers, owing to the lightness and adherent nature of the cotton, is entirely overcome by the use of this holder.

A loose dome with a spring and screw pillar is fitted inside the outer dome so that the pellets are kept close to the holes, consequently the last pellet is as easily taken hold of as the first.

The holder is a well-made solid affair much different from many of the pellet holders offered for sale.

Price, heavily nickelled $1.25

CLAUDIUS ASH, SONS & CO., Limited

Specialists in removable and semi-removable bridge work.

Griswold, Morgan, Roach Bennett Bar, Fossume-semi-removable and Gilmore attachments

Porcelain bridge work.

Continuous Gum Work.

All classes of Tube tooth work.

Ash's Swaged Vulcanite Dentures, Bar Lowers, etc.

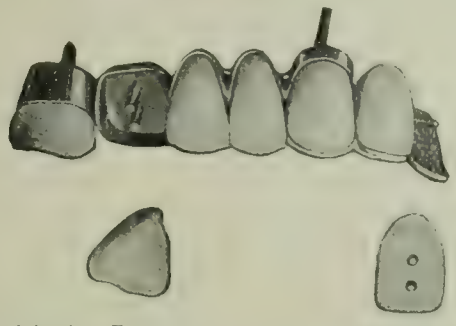
Chas. L. Daly

X. L. C. R. Dental Laboratory

ROOMS, 1, 2, 3, 4 & 5,
11 GRENVILLE STREET
—— TORONTO ——

"Your impression **OF** me will largely depend upon your impression **TO** me."—*C. L. Daly.*

"Send good Plaster Impressions and correct wax bite and leave the rest to me"—*C. L. Daly*



The above cut illustrates the Dimelow Detachable Facings at **$2.75** per Tooth, all porcelain posteriors

PARTIAL PRICE LIST FOR LABORATORY WORK:

Gold Crowns: Cen. Lat. Cus. and Bic. - - - $2.00
Molars - - $2.25 to $2.50

Bridgework: Anteriors per tooth $2.00
Bicuspids - - - - $2.50
Molars - - - $3.00 to $3.50
Richmonds, extra - - $ .25

Facings charged extra at market price.

Steeles and Dimelow interchangeable Facing and Porcelain
Cusp. posteriors, per tooth $2.75
Richmonds, extra - - .25
Gold Cusps. on posteriors extra .50
Facings included in above prices

Goslee and Dowel Bridgework per tooth - - - 3.00
Teeth extra

Gold Inlays
(Send wax impression packed in tissue paper)
Casting only - - - .75
Gold - - - - .05 per gr.

Rubber Dentures—
Plate Work, $2.50 to $3.00
(Partials $2 00)
Swaging metal plates (swaging only) Aluminium - - $3.00
Gold - - - $5.00

Casting Aluminium plates (cast only) - - - $4.00
Gold Plates - - - - $6.00
All teeth charged extra at market price

Send impressions (unpoured) plaster preferred, for all classes of work including metal work.

SEND A TRIAL ORDER. **SATISFACTION GUARANTEED**

When you write, give full particulars of case and when wanted.
You will not be disappointed.

CHARLES L. DALY

A NEAR MATCH

is unsatisfactory. AN ABSOLUUTE match is required. DE TREY'S SYNTHETIC PORCELAIN has made this ideal possible. The tooth when finished looks PRECISELY like the tooth before it began to decay. This is the kind of dentistry that millions of people want; it is the kind they are entitled to have, now that it is so easily possible. For ABSOLUTE matching you need this shade guide, price $1.50.



DO YOU WANT THIS BOOKLET?

We have in press an illustrated booklet No. 2, on SYNTHETIC PORCELAIN, giving many facts concerning its origin and nature, and describing the proper method of manipulation. Write for it, mentioning this journal. It is free.

THE L. D. CAULK COMPANY

Laboratories: Milford, Delaware

Cement-Alloy Combinations

Excellent results are secured through the frequent use of CAULK'S CROWN AND BRIDGE AND GOLD INLAY CEMENT AND TWENTIETH CENTURY ALLOY, in combination.



All large or deep-seated cavities to be filled with amalgam should be lined with our Crown and Bridge Cement. It insures perfect adaptation and permanent retention, and avoids the possibility of thermal shock.

Another combination consists in incorporating a quantity of Twentieth Century Alloy fillings with Crown and Bridge Cement in the mix on the slab, and inserting this mass into the tooth. This makes a filling of great strength, and that resists abrasion and stress.

Using this cement and this alloy, you are working with known quantities and are not experimenting, since this cement and this alloy have for years been regarded as standard wherever dentistry is practiced.

THE L. D. CAULK COMPANY

Laboratories: Milford, Delaware

Don't Simply Suggest

"any good dentifrice" and expect patients to get definite results.

Even though you do not treat pyorrhea, you can constantly enlarge a desirable clientele by devoting more time to oral prophylaxis.

Prescribe Pyorrhocide

to be used regularly twice daily. The appreciation of grateful patients will be manifested quickly by an increased confidence in your ability and skill.

Copies of ORAL HYGIENE IN MODERN THERAPY and THE PRACTICAL METHOD OF SUCCESSFULLY TREATING PYORRHEA can also be had for the asking.

The Dentinol & Pyorrhocide Co.

World's Tower Building

110-112 West 40th Street **New York**

N.B.—Ask your supply house about the special sixty day TRIAL OFFER on Dentinol and Pyorrhocide.

START THE NEW YEAR —RIGHT—

How many hours do you intend to work in 1915?

Each hour is worth so much money to you.

Did you ever stop to consider how many hours are lost, unnecessarily, setting up cases, grinding or making over ill-fitting Dentures?

RESOLVE: To start the New Year right by selecting

Justi True-to-Nature Molds

and save those lost hours.

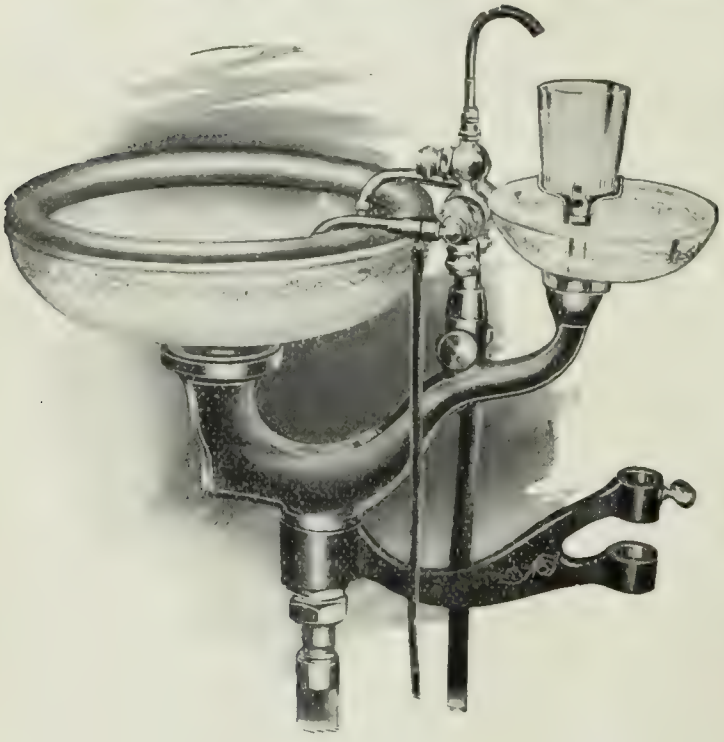
MAY WE SEND YOU OUR BOOKLET

H. D. JUSTI & SON

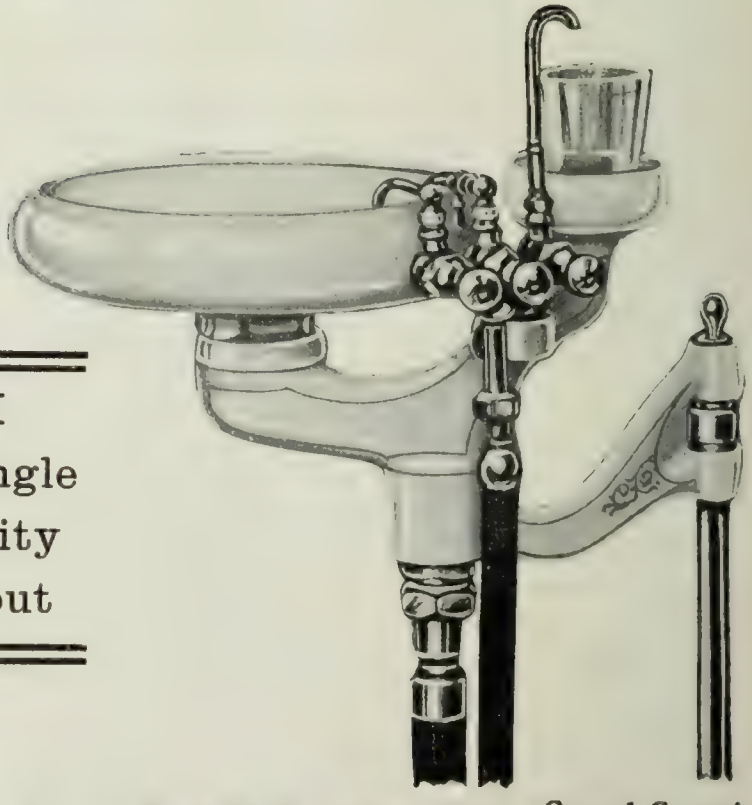
Philadelphia **Chicago**

The "Clark" is for ALL Dentists

We cater to all classes of Dentists and have spittoons of many types, with a wide range of prices, to meetall requirements.



CLARK
New Model
Double with
Finger Bowl
for the
Discriminating
Dentist



CLARK
$40.00 Single
Best Quality
Throughout

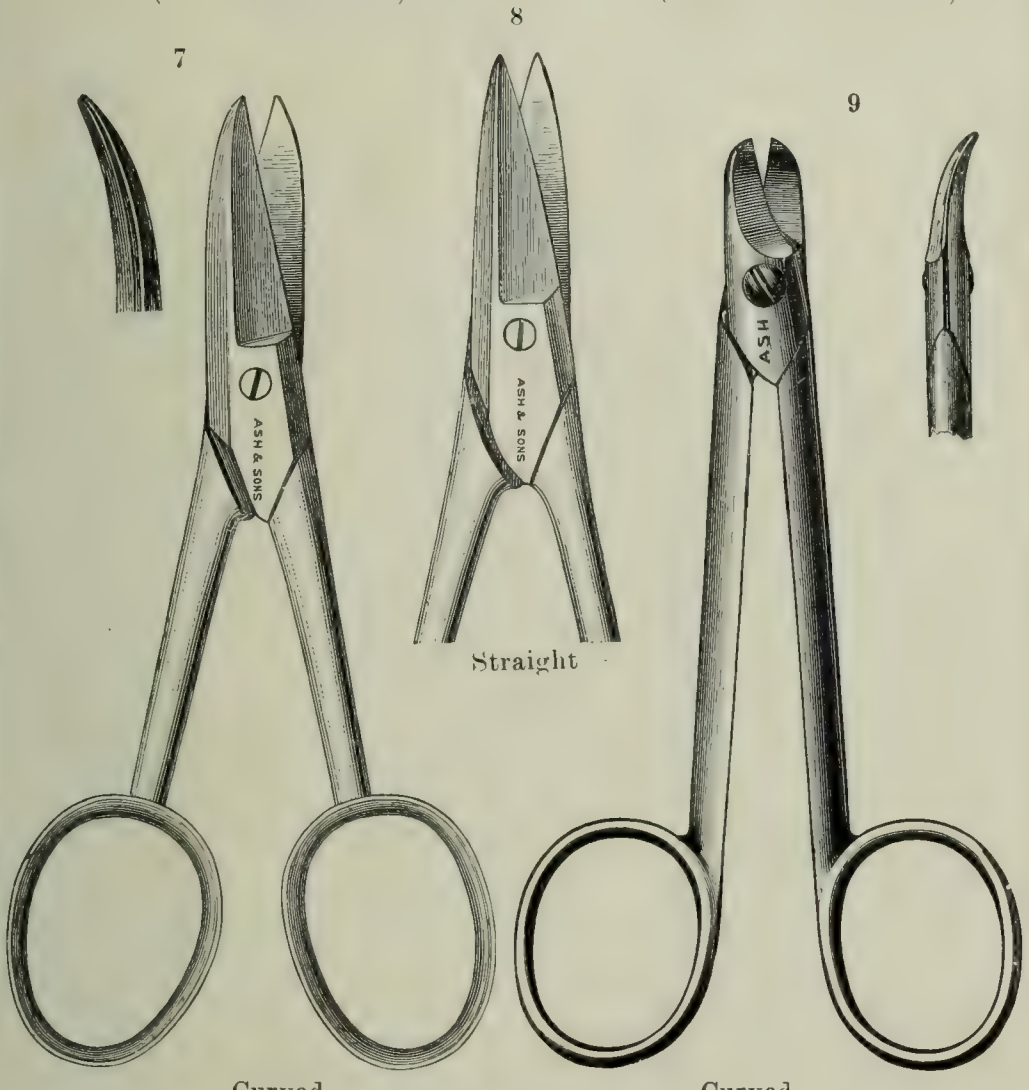
Write for Catalog **A. C. CLARK & CO.** Grand Crossing CHICAGO

Improved Plate Scissors

(Mr. Girdwood's)

Crown and Collar Scissors

(Dr. J. H. Beebee's)



Straight

Curved

Curved

Full size.

Specially adapted for the use of Crown and Bridge Workers.

Improved Plate Scissors (Mr. Girdwood's).—These Scissors are more easily handled than small shears, and allow of sharp curves and angles to be readily cut, and Mr. Girdwood finds them strong enough for crown gold, etc.

Fig. 7. Curved Scissors, Nickel-plated.....each $1.25
Fig. 8. Straight Scissors, Nickel-plated.....each .80

Crown and Collar Scissors (Dr. J. H. Beebee's).—Most useful for cutting and trimming gold collars and crowns.

Fig. 9. Curved Scissors, Nickel-plated.....each $1.10

CLAUDIUS ASH, SONS & CO., Limited

TORONTO

NOW READY!



Ash's Appointment Book
for 1915

Extra Strongly Bound in Red Leatherette, with Padded Front Cover, Gilt Lettered with the words "Appointment Book." Size 8¼ x 8¼ inches.

CONTENTS:

313 Pages arranged for Half-hour Appointments from 8 a.m. to 8 p.m.
Memoranda Pages.
A copious Index ruled for use as an Address Book and Index to appointments.
1 Calendar Page, etc., etc.

This Appointment Book contains no Trade Advertisements

Complete with Pencil - each net **$1.75**

VOL. 5 No. 8

ASH'S CANADIAN MONTHLY CIRCULAR

ISSUED FROM TORONTO ON THE FIRST OF EACH MONTH.

CLAUDIUS ASH, SONS & CO. LIMITED.
CANADIAN BRANCH,
11-13 GRENVILLE ST. TORONTO, CANADA.
MAIN DEPOT LONDON. W. ENGLAND.



Ash's Dark Elastic Rubber

Purest and Strongest.

To obtain the best results with this product bear in mind that it is all "Pure Para" and contains no colouring matter whatever. It is necessary, therefore, in vulcanization to advance the heat very slowly and vulcanize for at least one and one-half hours.

There are imitations of this rubber offered to the profession, some going even to the extreme of copying the name "Dark Elastic." Refuse these imitations, as if Ash & Sons' name is not on the box and linen back the product is not ours.

Price per pound.....$ 3.75
Price per 5 pounds..... 17.20

Direct or through your dealer.

Claudius Ash, Sons & Co., Ltd.

CONTENTS

FEBRUARY, 1915

Cover Design—

Navigating a Hill on Snow Shoes.

Original Matter—

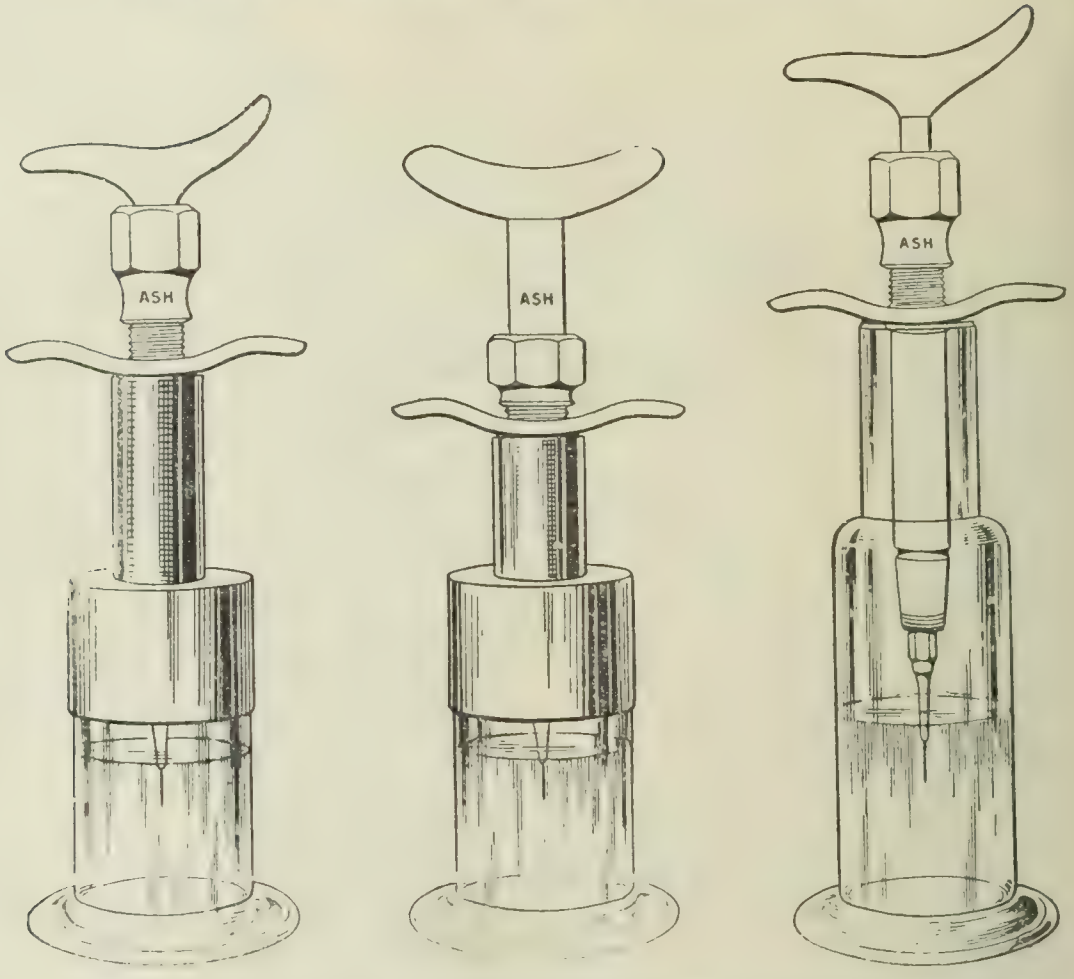
Sodium-Potassium for the Immediate Sterilization of Root-Canals
Dr. Emil Schreier Page 3

Advertising Section - - - - - Page 5

Practises for Sale, Help Wanted and Second Hand Goods - - - - - - Page 30

Advertising Section - - - - - Page 31

Bardet Sterilizers

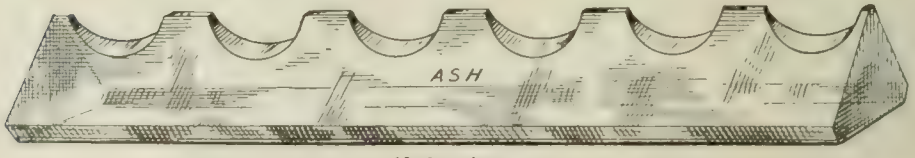


The employment of this Sterilizer ensures having a perfectly sterilized syringe in perfect working order always at hand. Lysol is especially recommended to use with this Sterilizer. It is a perfect sterilizing agent and will not harden the syringe packing.

PRICE .... 60c.

Glass Rack

FOR INSTRUMENT TABLE.



Full size.

Aseptic, and practically equal to new every time it is cleaned.

PRICE . - - - - each 25c.

Notice to our Patrons

WITH this issue, our CANADIAN MONTHLY ceases, and will be succeeded by ASH'S CANADIAN QUARTERLY, which will be a more comprehensive and acceptable publication, issued in May, August, November and February.

We take this opportunity of respectfully informing the Dental Profession of Canada, that this Depot gives proper service to its needs by not only supplying ASH'S products, but also stocking a comprehensive line of competitive manufacture, including Artificial Teeth, Dental Rubber, Cements, Alloys, Golds, Tools, Engine Equipment, Instruments, Office Furniture, Laboratory Tools, Gas Apparatus, Electric Equipment and Dental Sundries.

This broad and old established policy of our Company is followed in all our thirty-four Depots throughout the World, giving our patrons a wider line of selection than any other prominent firm in Dental Manufacture.

Claudius Ash, Sons & Co., Limited

Ash's Canadian Monthly Circular

Vol. V. TORONTO, FEBRUARY 1, 1915 No. 8

SODIUM-POTASSIUM FOR THE IMMEDIATE STERILIZATION OF ROOT-CANALS.

By Dr. Emil Schreier.

In these days, when Hunter's arraignment of septic dentistry has aroused the conscience of all honest men in the profession to the great responsibility of their daily work, we deem it opportune to recall to their mind a technique which considerably reduces the main danger of septic infection which springs from the treatment of pulpless teeth. I allude to the use of my sodium-potassium.

It is now twenty years since I brought out this treatment, and I subsequently gave it greater publicity by a demonstration at the Chicago Congress. It was at once endorsed by the best men in the profession, who continue to use it exclusively and to speak of it in the highest terms of praise.

Were it not that the method appeared to be rather revolutionary, as a distinctly new procedure which had no connection with the older ways of treatment previously in use, it would have been taught in the colleges and are now generally accepted.

This is the underlying idea, and it is convincing: A root with a decayed pulp is regarded as a minute test-tube which contains water with albuminous matter in various stages of decomposition, chiefly fat, suspended therein, besides innumerable bacteria. The first and chief object of any treatment must be sterilization. To attain this a chemical process is resorted to. A suitable broach, as a blunt cleanser, is dipped in a compound of metallic sodium and potassium, which adheres to it in minute particles. Charged in this way the broach is introduced into the canal, when the well-known chemical reaction immediately takes place. The water is decomposed, hydrogen is liberated, which burns, develops great heat, and thus at once destroys all bacteria. Sodium and potassium hydroxides are formed and combine with the organic detritus into soap. A slight expolsion results at the close of the reaction, and this throws out the bulk of the contents of the canal

into the pulp chamber. A distinct smell of soap clinging to the broach shows the accuracy of the statement. What is left in the canal is aseptic soap. This being readily soluble, the final cleansing is easily performed. A few threads of cotton are wound loosely round a broach dipped in a weak antiseptic soultion, preferably of hydrogen peroxide, and the contents left in the canal are soaked up. This done, the canal is perfectly clean and sweet, as can be proved by performing the whole treatment on an extracted tooth and afterwards splitting the roots.

I will refrain from citing the many favourable criticisms of the method, uttered again and again in papers and discussions, by such men as M. L. Rhein, R. Ottolengui, McQuillan, Callahan, and others, the two first even going so far as to proclaim it the sensation of the Chicago Congress.

But let me here state that it is not the resort of the man who smears a drug in a pulpless tooth and claims that he has saved it. It is the expedient of the conscientious man who likes to do his work carefully. To such an operator this method will prove a reliable aid; it will never fail him and it will really help him to achieve the best results, even in the most obstinate cases.



Ash's Rubber Dam Punch

This punch has a circular plate containing four holes of different sizes.

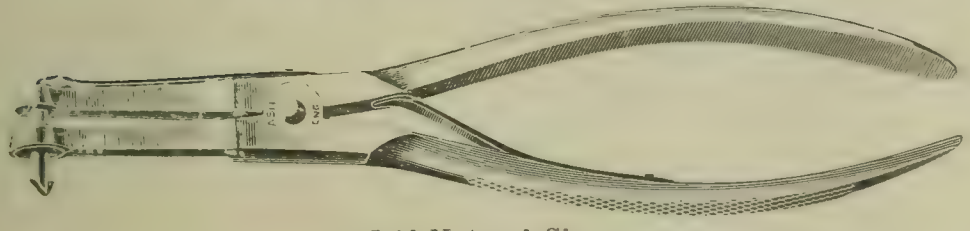
The punching pin A slides into socket B in a straight line when pressure is applied, and thus cuts equally all round the edge of the holes.

There is a small spring on the pin, inside the socket, which opens the handles when the pressure is released.

The Rubber Dam can be laid in the space beneath the plate and pin without danger of being caught or torn in the joint of handles.

Price.....$4.50

Ash's Crown Slitter



Half Natural Size.

With this Crown Slitter a metal band can be divided so neatly as to admit of the edges being brought together again and soldered, if the crown is to be replaced after needful treatment of root has been accomplished. The Cutter can be set in four different positions.

Price.....$3.50

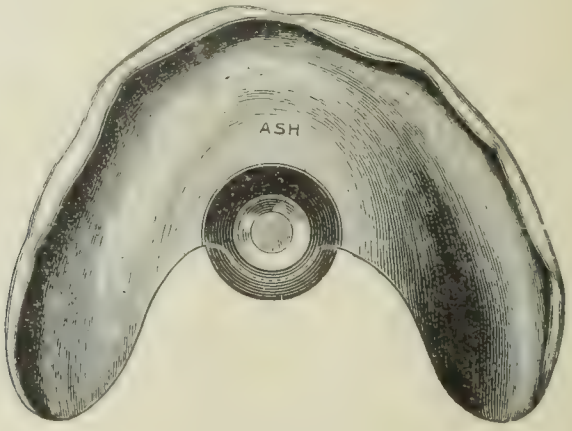
Rauhe's Improved Suction Disc for Vulcanite Dentures

MADE IN GREAT BRITAIN

PATENTED IN ENGLAND, GERMANY, FRANCE, AUSTRIA-HUNGARY, BELGIUM, THE UNITED STATES, ETC.

Rauhe's Suction Disc has been specially designed to prevent injury to the palate. It does not draw down the tissues and produce soreness in the mouth. In this respect it is greatly superior to all existing Suction Discs.

There are no parts about it which can be lost or misplaced, such as bolts or screws, etc.



It is easily kept clean, owing to the fact that the rubber disc can be removed and replaced in a few seconds, without the use of a tool of any kind.

The anchorage of the rubber disc is so simple that the patient can renew the disc when necessary.

The suction power of the disc is sufficient to hold a denture quite firmly and securely in position.

It is unnecessary to add clasps to partial sets which are fitted with Rauhe's Suction Disc.

DIRECTIONS FOR USE:

Press the disc on the most suitable part of the plaster of Paris model with the thumb, fasten it in position with the three small pins which are supplied with it, being careful to drive the head right home, and pack the hole in the centre with dental

rubber. After the case is packed and vulcanized, strip off the tin form in which the stud is embedded; the portion in which the pins are driven should be removed first. To facilitate removal, cut through the tin, open it with a pocket knife or suitable tool, and strip it off. Should the edge of the stud be bent in stripping off the tin form, it can readily be straightened with any blunt tool. When the stud is thus cleared of the tin form, slip a rubber disc over it and the Suction Disc is ready for use. To do this, the rubber disc should be held down with the thumb of the left hand and stretched over the stud with the thumb and forefinger of the right hand.

In regard to the position in which the Suction Disc should be set on the plaster of Paris model, it will be obvious that the flattest part of the palate should be chosen. Two Suction Discs should be used on exceptionally high palates and on V-shaped palates—one on each side. In the case of large palates it is desirable to set the Suction Disc as far back as possible.

Sometimes the full power of the Suction Disc is not immediately exercised when it is first put into the mouth, but after it has been worn for some time its action will be perfectly efficient.

SPECIAL.—To remove the collar from beneath the Stud, after the case is vulcanized, insert the point of an excavator in the slit exactly opposite the letter C in the name C. Rauhe and open it out gradually, without levering it up, so as not to injure the stud.

PRICES.

Rauhe's Suction Discs for Vulcanite Work:

Gold Stud with 3 India-Rubber Discs	each	$ 1.00
	per doz.	11.25
Aluminum-Alloy Stud with 3 India-Rubber Discs	each	.50
	per half doz.	2.50
Extra India-Rubber Discs, any size	per doz.	.30

Claudius Ash, Sons & Co., Limited

SOLE AGENTS

Rauhe's Suction for Cast Aluminum Dentures

MADE IN GREAT BRITAIN

It is made with the scientific exactness and care that have characterized these Suctions for Vulcanite Dentures.

The Cast Aluminum Suction is a simple one to attach, and is highly satisfactory.

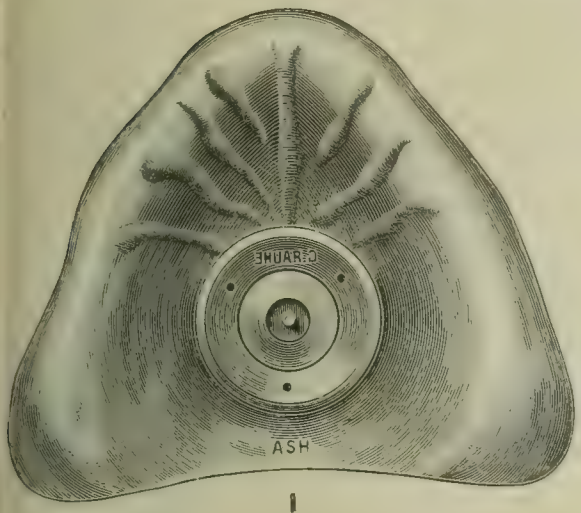
Price	-	- each	.50
In lots of half dozen		-	2.50

FOR DESCRIPTION SEE NEXT PAGE

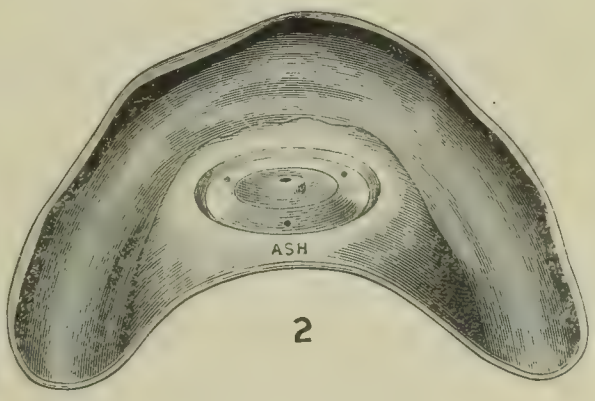
Claudius Ash, Sons & Co., Limited

Rauhe's Aluminum Alloy Suction Discs

FOR CAST DENTURES



1



2

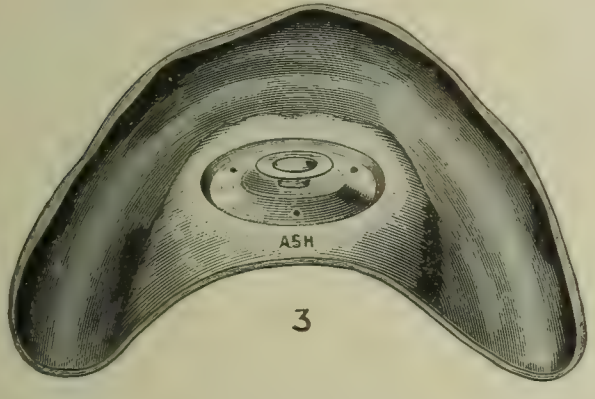
SHEWS METAL FORM MOUNTED ON MODEL

DIRECTIONS FOR USE

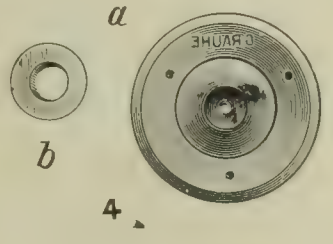
I. Shape Metal Form (Fig. 4) to Plaster Model with fingers, and secure it in position with the small pins which are supplied with the suction.

II. Mount the Wax Plate over the Metal Form and gently press it into position with a soft sponge dipped in warm water.

After the wax plate has been reinforced with Coating and Embedding material, it can easily be removed from the Model. Upon removal, a stud-like projection in wax is left in the centre of the metal form, as shewn in Fig. 2.



3



4

III. Upon this stud-like wax projection gently place the Metal Stud B and fill up the centre flush by dropping a little melted wax into it as shewn in Fig. 3.

IV. The Wax Plate is then invested and finished, after which the Rubber Disc is stretched over the stud and the Denture is ready for wear.

N B.—To obtain the best results, the Rubber Disc should be reversed every morning by the patient.

SOLE AGENTS

CLAUDIUS ASH, SONS & CO., Limited

The Genuine, Original

Stents Composition

The Pioneer of all Impression Compositions has now been before the Profession for

FIFTY-SEVEN YEARS

(It was introduced in 1857)

and stills holds the premier position as

: : : THE BEST : : :
IN THE WORLD

for taking impressions of the mouth and : : for many other useful purposes : :

ATTEMPTS have been made to imitate STENTS COMPOSITION; even the color of the box in which it is packed, and the color of the label on the box, have been copied, for the purpose of deceiving the unwary; hence it is necessary to say that every cake of genuine, original STENTS COMPOSITION bears the Trade Mark, which consists of the outlines of two Impression Trays, and the name

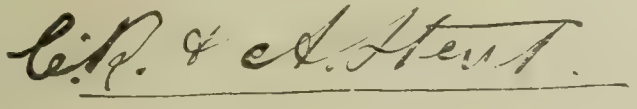
STENTS

There is no other genuine, original STENTS COMPOSITION

STENTS COMPOSITION—*Continued*

TO BE OBTAINED OF ALL DENTAL DEALERS

The label on every box bears this signature:



BEWARE OF SPURIOUS IMITATIONS!

The genuine, original STENTS COMPOSITION is prepared in round cakes, pink or yellow in colour, and supplied in half-pound boxes.

Price per lb,, 90c.; 6-lb. lot, $4.50; 10-lb. lot, $7.20.

STENTS RENOVATING COMPOSITION

This genuine, original STENTS RENOVATING COMPOSITION, which is expressly prepared for mixing with used, discoloured composition to make it as good as new, is prepared in round pink cakes, and also supplied in half-pound boxes.

Price per lb., 95c.

Sole Owners of the Original Recipe:

CLAUDIUS ASH, SONS & CO., LIMITED

5-12 BROAD STREET, GOLDEN SQUARE, LONDON, W.

Canadian Branch—11-13 Grenville Street, Toronto

New Prices for Stents Impression Compound

Per lb.	.95
3 lbs.	2.65
6 lbs.	4.80
10 lbs.	7.70

This Compound is the most reliable on the market, and has stood the test of time. If you have not used it, send us a request postal for a sample.

Claudius Ash, Sons & Co., Limited

A Page of Good Dependable Waxes

OUR many years of experience as makers of high class Wax for Dental purposes has enabled us to put products of the highest merit at reasonable prices at the choice of the discerning Dentist.

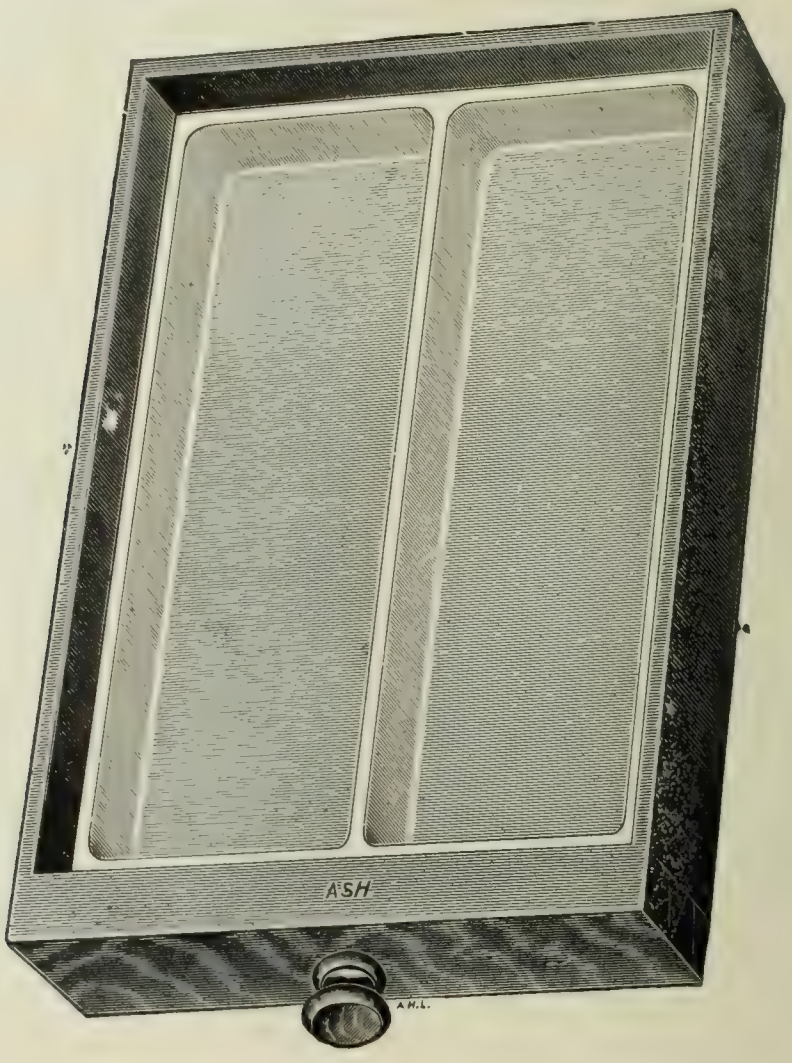
Ash's Pink Wax, No. 3 (low heat)	per lb.	.80
Ash's Pink Wax, Extra Tough	"	1.10
Ash's Yellow Wax, Extra Tough	"	1.10
Ash's Yellow Bite Wax - -	"	1.05
Ash's Black Wax (Sticks) for Inlays	per box	.35

A Mail Order, or a request from any of our travelling men will bring you prompt service.

Claudius Ash, Sons & Co., Limited

Porcelain Tray

Divided Down the Middle. For Long-Handled Instruments.



The two small sizes of Porcelain Trays for small instruments and useful sundries have been so favorably received by the Profession that we have decided to add the size here illustrated to our stock for long-handled instruments.

It is made to fit the drawer of Allan's Bracket Table, the outside dimensions being 7¾ in. long by 4¾ in. wide by ¾ in. deep, but it can be lifted out of the drawer if desired and used in any situation most convenient to the operator.

It is perfectly aseptic, and practically equal to new each time it is cleaned.

Price.....each 40 Cents

Claudius Ash, Sons & Co., Limited

PORCELAIN TRAYS

To fit Drawer of Allan Table



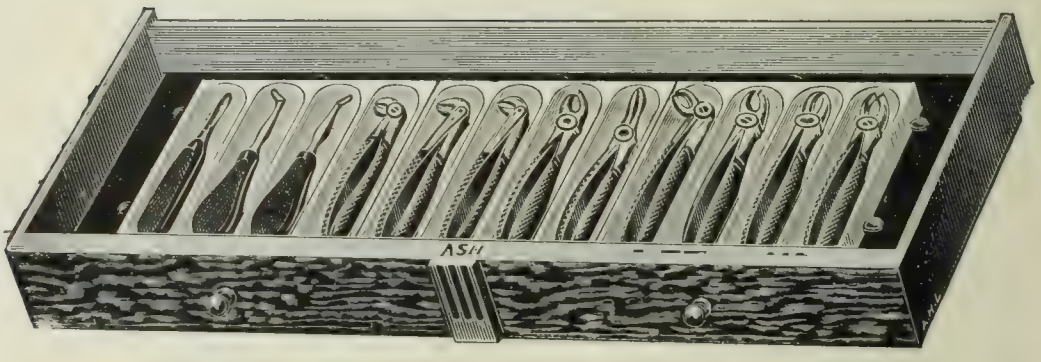
Drawer of Table fitted with Trays. Cut about half size.

The use of these Trays brings order out of chaos, and will save the busy operator a great deal of valuable time.

The improved appearance of the drawers of the Table (and which are generally seen by the patient) will be greatly appreciated by the operator.

Price (either size) - 12c. Each

Porcelain Trays
for
Forceps
No. 5



These trays enable you in an inexpensive way to classify and keep your Forceps looking neat in your cabinet.

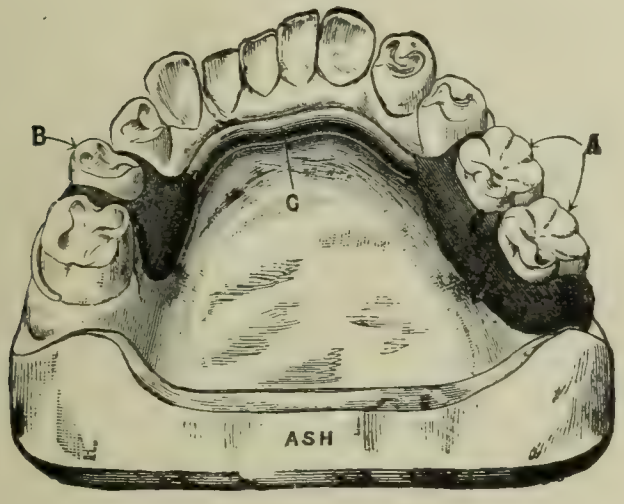
The trays are neat and not too large, and enable you to arrange on your table just what Forceps you will need for the extraction.

The trays are aseptic, and make excellent receptacles for the stained Forceps as you hurriedly put them down when changing instruments.

Price, per Tray for Four Forceps, 70 Cents

Ash's Oval Gold Cased Wire

For Bar Lowers



Bar Lower Dentures have come into universal demand. Note some of their advantages.

No tendency to push teeth outwards.

Greater cleanliness.

Less bulk.

Greater rigidity.

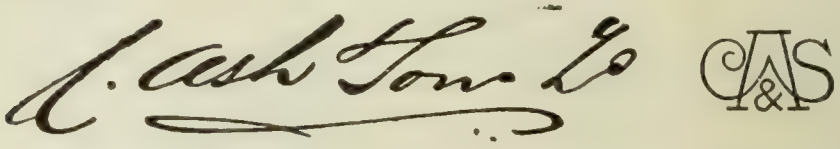
Per dwt	$ .40
16 kt. Gold	.98

Ash's Dental Rubbers

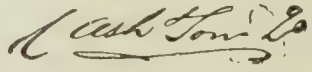
UNAPPROACHED FOR

Excellence, Purity, Strength, Elasticity, and Density

To mark the genuineness of our Rubbers, the face of every box and envelope which we supply bears this signature and monogram—



and one of the pieces of cloth in which each sheet of Rubber is packed bears this signature—



in addition to the name of the Rubber. Always ask for ASH'S when ordering our Dental Rubbers.

TRUE CHEAPNESS.

In choosing dental rubbers, **price** should not be taken as the main guide, because some rubbers which are considered cheap are really dear when they are compared with the more expensive rubbers, many of which yield from 30 per cent. to 40 per cent. more plates to the pound than some of the cheap rubbers.

If **true cheapness** is the aim of a buyer he should not fail to take **quantity** into account, since it counts for much, quite apart from **quality**.

We offer both quantity and quality.

We guarantee full weight in every box or envelope of Rubber of our manufacture, exclusive of the tracing cloth in which it is packed.

Ash's Dental Rubbers

Are the best in the World, and are the standard by which all others are judged.

NOTE.—Our Rubbers weigh 16 ozs. to the pound, exclusive of linen backing and box.

FOR COATING

	Per lb.	5-lb. lots	10-lb. lots	20-lb. lots
New Pink, Medium No. 1X Pink, Medium No. 1 Pink, Light Gum Pink, Medium Gum Pink, Light	$6.25	$5.65	$5.25	$5.00
No. 2X Pink, Medium English Pink, Medium English Pink, Light	5.25	4.75	4.50	4.25

FOR BASE

Improved Black Combination White for Side Blocks, etc Child's "G" A. E. Elastic, Dark Brown W. Elastic, Dark Brown Whalebone No. 1, Dark Brown	4.75	4.30		
Whalebone No. 2, Light Brown Solid Base	4.25	3.85		
Dark Red Flexible Base Dark Elastic Maroon	3.75	3.40		
Red Orange Dark Brown Brown English Base	3.25	2.95		

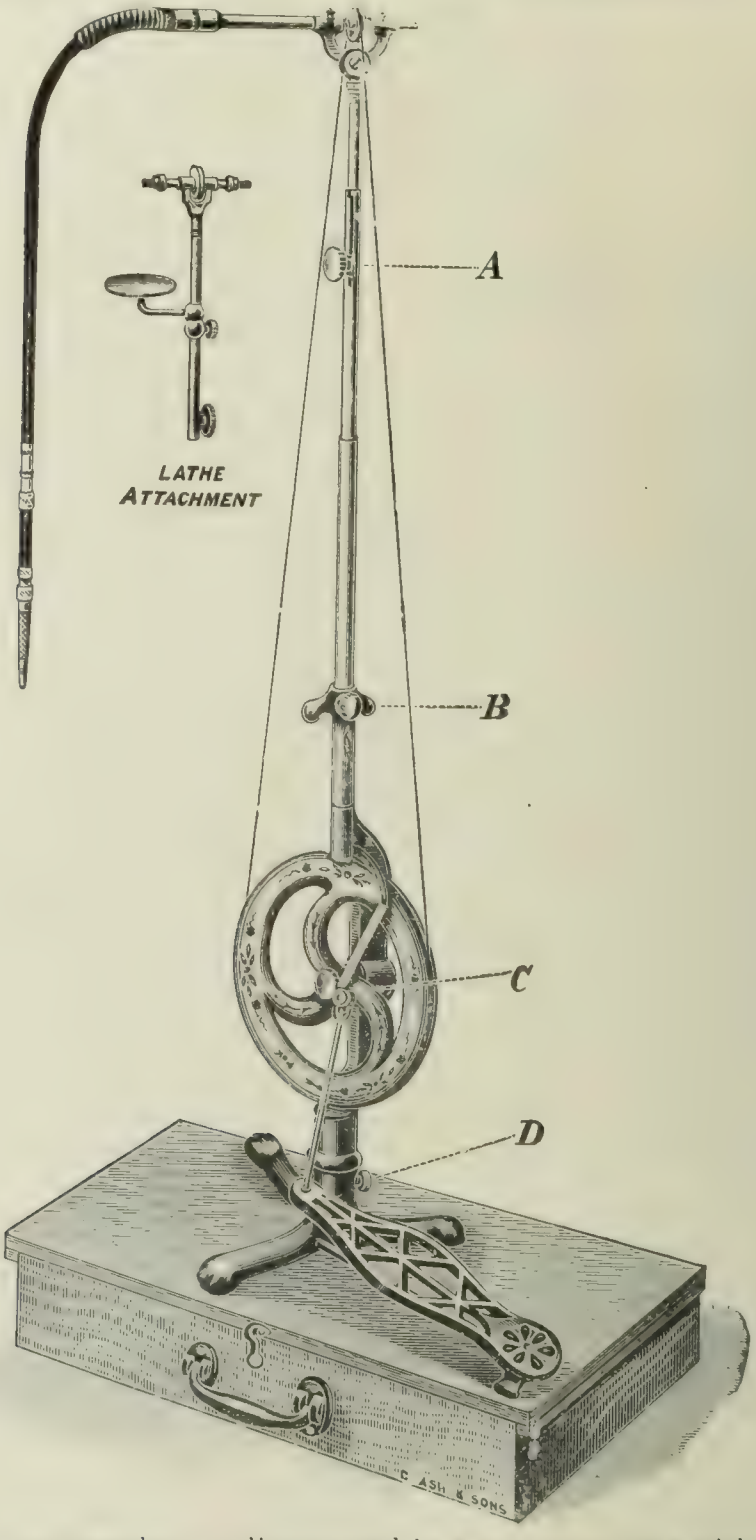
SPECIAL—FOR TENDER GUMS, ETC.

	Degree Fahrenheit	Time		lb.
Soft Pink, for lining Palates	310	1	15	$6.25
Soft Dark Red	310	1	15	4.75
Vela for Artificial Palates	270	6	0	6.25
Brown Weighted				4.50
Pink Weighted				6.25
Brown Repairing				4.75
Pink Repairing				6.25

NOTE.—Cash Discounts do not apply on quantity rates on our Coating Rubbers in any quantity over 5 lbs.

CLAUDIUS ASH, SONS & CO., Limited

ASH'S TRAVELLING ENGINE

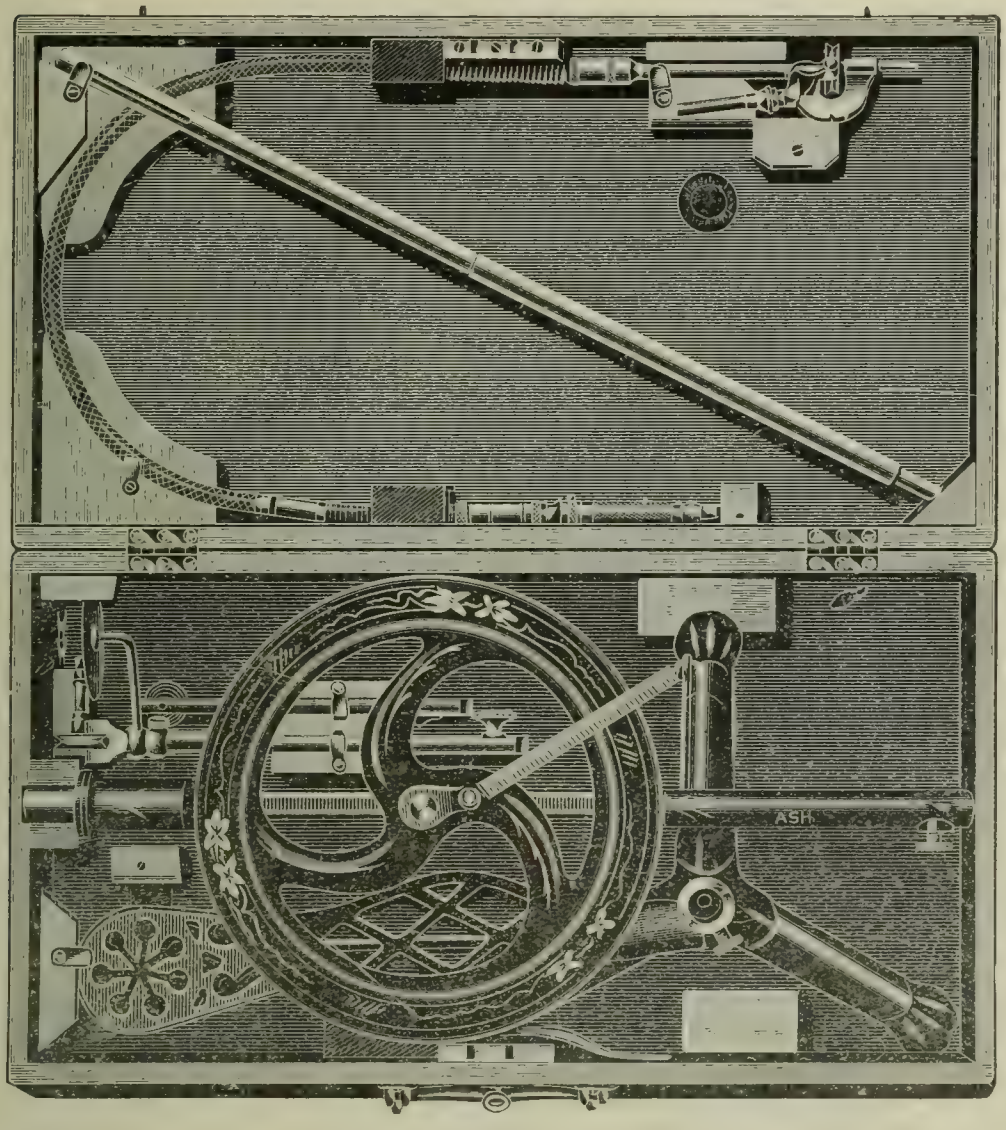


Can be put together or dismounted in a minute or two without the aid of spanner or screw-driver.

Weight complete, with Lathe Attachment and Box, 32 pounds.

Price - $32.50 Price with Lathe Attachment - $44.00

Ash's Travelling Engine



The illustration shows this ideal equipment boxed in its neat travelling case.

The box is neatly finished and equipped with serviceable handle and lock.

This engine can be put together or dismounted in a minute or two without the aid of either screw driver or spanner.

The total weight of equipment including lathe attachment is 32 lbs.

The engine is a perfect running apparatus and fully guaranteed.

With No. 7 H.P. Duplex Spring and Slip Joint	-	$37.50
With above equipment and Lathe Attachment	-	44.00

Claudius Ash, Sons & Co., Limited

STOVAINE

(Registered).

AN IDEAL ANÆSTHETIC FOR USE IN SURGICAL AND DENTAL PRACTICE.

Guaranteed not to contain Cocaine. **Do not fail to try it.**

STOVAINE is pure Chlorhydrate of Amyleine. It is administered hypodermically like cocaine; its anaesthetic action is equal to that of cocaine; it is much less toxic than cocaine; it exerts a tonic action on the heart; in a word, it possesses all the advantages of cocaine without any of its dangers.

STOVAINE has a wide range of application, and is being very extensively used by surgeons and dentists all over Europe and in the United States and Canada with the greatest success and satisfaction.

The most convenient and popular form in which Stovaine is put up is a 1 per cent. Solution in Oil of Eucalyptus, Oil of Wintergreen, Boric Acid, Glycerine, Tincture of Rosemary, Thymol, Oil of Peppermint, Benzoic Acid, Carolic Acid .05 per cent., and Alcohol.

Price, in 2-oz. bottles.....per bottle $1.35

NOTE.—To obtain the best results with Stovaine, it is necessary TO KEEP STRICTLY TO THE TIME recommended by the manufacturers, viz., TWO minutes after injection. When the Operator has finished injecting, he should look at his watch, and as soon as TWO MINUTES have elapsed he should at once proceed with the extraction of the tooth or teeth.

Claudius Ash, Sons & Co., Limited

TRIKRESOL-FORMALIN

SOLUTION AND PASTE

(Dr. J. P. Buckley's Formula.)

DIRECTIONS FOR USE.

1.—In Teeth with Gangrenous Pulps, open up the cavity and clear out the canal or canals. Soak one or more cotton pellets in the Trikresol-Formalin Solution, insert in the canal or canals, and securely seal the cavity with Fletcher's Artificial Dentine to make it perfectly air-tight.

After one or two days remove the cotton pellets, wash out the canal or canals and cavity with a 3 per cent. solution of Carbolic Acid, and then thoroughly clean and dry out.

Now flow a drop of the Trikresol-Formalin Solution in the canal, or in each canal if more than one, fill the canal or canals with Trikresol-Formalin Paste, and proceed with and complete the permanent filling.

2.—Trouble subsequent to Root Treatment. When inflammation with swelling and pain develops in teeth, the roots of which have been long previously treated, and trephining has to be resorted to, they should be left open under Trikresol-Formalin Dressings for a few days; the treatment described above, under No. 1, can then be completed in two sittings.

3.—Pulp Amputation and Nerve Extraction. In cases of pulp amputation and nerve extraction insert in the canal a cotton pellet soaked in Trikresol-Formalin Solution, seal air-tight with Fletcher's Artificial Dentine, leave for a few days, then remove, flow a drop of Trikresol-Formalin Solution in the canal, fill it up with Trikresol-Formalin Paste, and insert the permanent filling upon it.

4.—Gangerous Pulp and Fistula. Should a gangerous pulp be accompanied with a fistula, Dr. Buckley opens the fistula, drains off the pus, inserts cotton pellets soaked in Trikresol-Formalin Solution and seals perfectly air-tight with Fletcher's Artificial Dentine. If necessary the treatment is repeated several times. The final stages of the work are carried out as described above under No. 1.

The most successful results are obtained when the above directions are faithfully followed.

Large package.....$1.35 per box.

BORITH

An excellent preparation to recommend your patients for cleansing Dentures. It is a thoroughly reliable preparation.

Price - - $2.00 Dozen

ZIMO

The best obtundent on the market for the painless extraction of teeth and minor surgery; Antiseptic and Germicidal. Can be used in all cases; safe and effectual. No bad after effects. Once used, always used. "ZIMO is a great practice builder," as everyone says who has used it. 4 oz. bottle, **$1.00**; 6 bottles, **$5.00**. Every bottle guaranteed. Try a bottle; if not all right send it back and get your money.

Manufactured and put up by

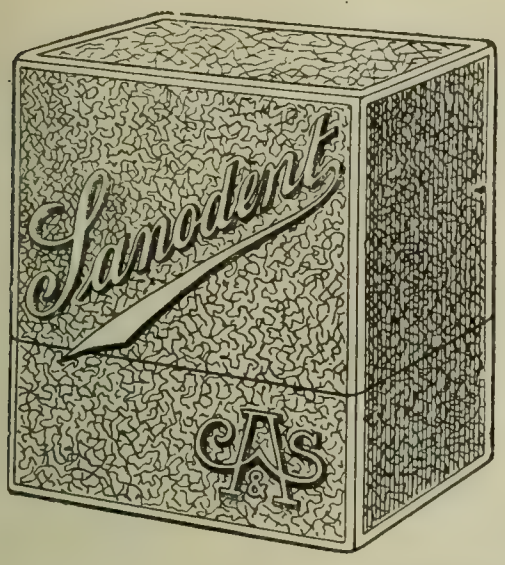
DR. S. T. WHITNEY

ST. STEPHEN, N.B. - - CANADA

General Agents:

CLAUDIUS ASH, SONS & CO., Limited

11-13 Grenville Street, Toronto, Ont.



Sanodent

(Registered)

A Superior Root Dressing

FROM THE FORMULA OF

MR. C. R. FITCH, L.D.S., Eng.

Sanodent has been regularly used and well tested for nearly four years with the most satisfactory results, hence it is offered to the Profession as a Thoroughly Reliable Preparation

DIRECTIONS FOR USE

As a Dressing for Septic or Abscessed Teeth.—Thoroughly clean out the contents of the Pulp Chamber and Root Canals in the usual manner. Mix the Sanodent Powder and Liquid to the consistency of thick cream and apply on Cotton Wool to the Root Canals and Pulp Chamber. Repeat these dressings until the tooth is perfectly "sweet." Then permanently fill the Canals with either Asbestos Fibre, Gutta Percha Points, or Cotton-Wool covered with Sanodent mixed to a fairly thick paste.

In very septic teeth, which at the time of treatment are not abscessed, it is advisable at the first to clear out the contents of the Pulp Chamber only, apply a dressing of Sanodent, and leave the treatment of the Canals until a subsequent visit, when their contents will be far less septic.

Some Other Uses.—In those cases in which for some reason or other (*e.g.*, Tortuous Canals), it is impossible to clear out the Canals thoroughly, cover the orifices of these Canals with Sanodent mixed to a paste, and carried to place on Asbestos Fibre or Cotton Wool. Any remaining Pulp will be preserved in an antiseptic condition.

As a "Mummifying" agent, those who practice "Mummification of the Pulp" will find Sanodent excellent. Subsequent to devitalising and removing the coronal portion of the Pulp, apply Sanodent, mixed to a paste, on either Asbestos Fibre or Cotton Wool.

After the application of Arsenic, a dressing of Sanodent left on for a day, prior to attempting the removal of the Pulp, will render the pulp tough and thus admit of its being much more easily removed whole from the Canals.

Sanodent is very useful as a permanent Root-Canal Filling when it is mixed to a paste and used in conjunction with Asbestos Fibre, Gutta Percha Points, or Cotton-Wool.

N.B.—Do not force Sanodent through Apical Foramina, and do not seal it in contract with living tissue, either pulp or gum. Sanodent is not intended to replace proper Root Treatment, but to aid it.

Sanodent is supplied in stoppered bottles. The bottles should be kept well closed when they are not in use. After exposure to light and air the liquid becomes somewhat darker in color than as supplied, but this is no detriment to it, and in no way affects its efficacy.

Sanodent Powder and Liquid in Packets, per packet..... $1.50

Solbrig Investment Material

SOLBRIG Embedding Material was the first of the so called Liquid Investments, and to-day holds the first place as a necessary adjunct to casting.

The Embedding Material is an expanding one under heat and being of a very open texture allows of free escape of air from the mould ahead of the advancing metals.

Solbrig Coating Material is of extra fine texture and painted next to the model, gives the finest, smoothest finish to the metal.

PRICES:

EMBEDDING MATERIAL—	
3 lb. Tin	$ .75
28 lb. Tin	3.00
COATING MATERIAL—	
3 lb. Tin	1.25
7 lb. Tin	3.00

Claudius Ash, Sons & Co., Limited

Solbrig's Coating Material

For Coating the Wax Form in Solbrig's Method of Casting.

Supplied in tins of 1 kilogramme (just over 35 ozs.)

Directions for Use.—Put as much of the Coating Material in the mixing basin as is required, add water to it, thoroughly mix it to the consistency of cream, be very careful to avoid air bubbles, paint the wax form with it, **equally thinly all over,** replace the wax form in position on the cone, and set the cylinder on the cone in readiness for filling with Investment Material.

Most satisfactory for Gold Inlay Investments.

Price.....per tin, 80 Cents

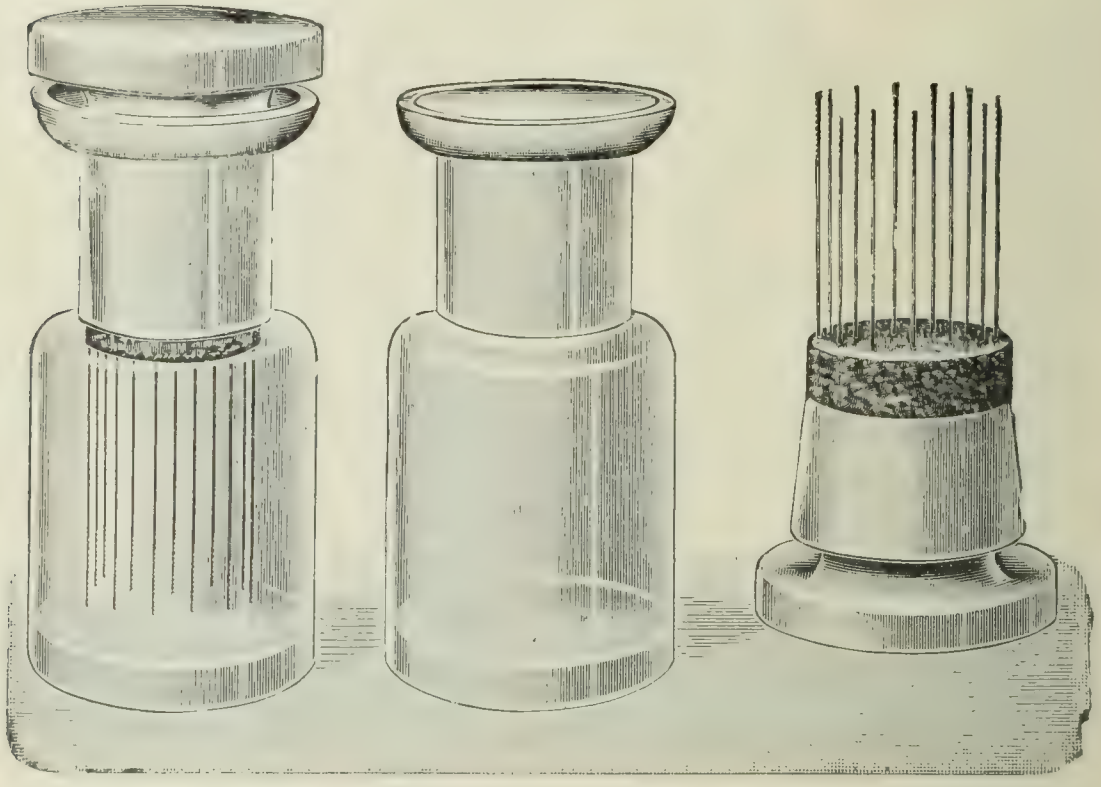
Ash's Articulating Paper

THIN BROAD BLACK

CLAUDIUS ASH, SONS & CO., Limited
5 to 12 Broad Street, Golden Square, London, England

Thin .....per doz. books, 75 Cents
Thick.....per doz. books, 75 Cents

Bottles for Nerve Instruments

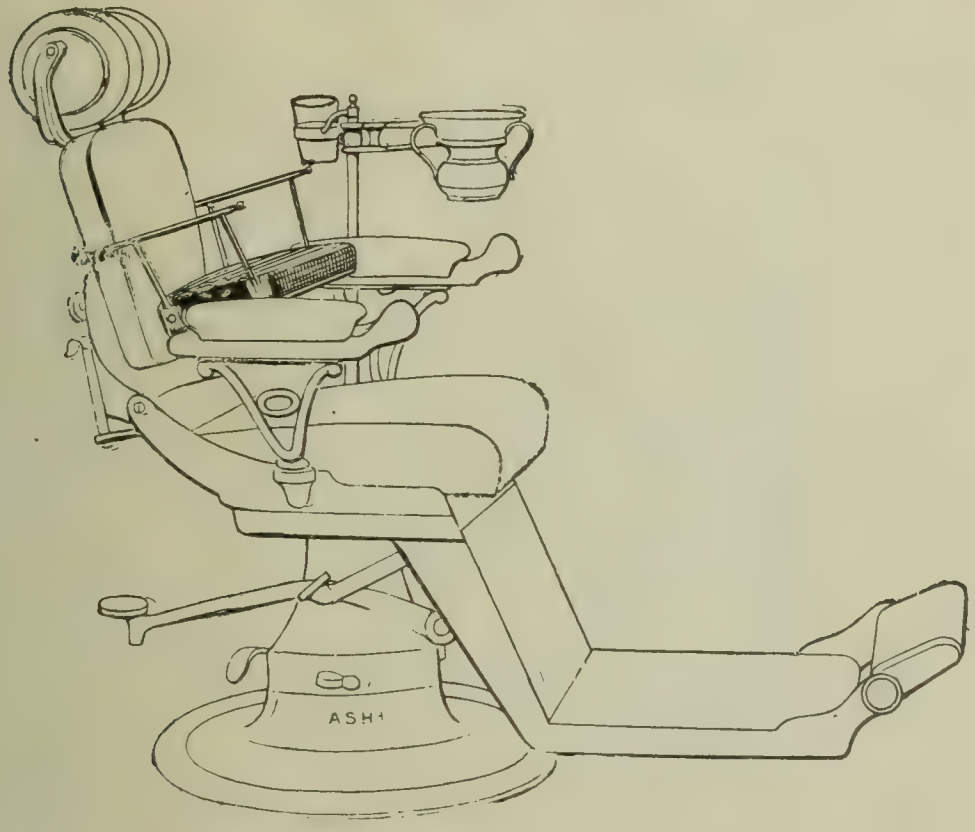


These Bottles are labelled respectively Sterilizing Fluid and Alcohol. There is no better method of keeping Nerve Broaches, and they make a handsome adjunct to your cabinet. Your instruments are always kept in a sterile solution, and if Lysol is used your Broaches will never rust.

Set of two bottles in Cardboard Case, 80 Cents.

Claudius Ash, Sons & Co., Limited

Child's Seat for Dental Chairs







The Child's Seat is shown separately and attached to chair. It is quickly detached and will be found a boon to many offices.

Upholstered in Dark Green Leather, $8.00.

Claudius Ash, Sons & Co., Limited

PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice, Walkerton, Ont. Apply Dr. F. Hughes, Waterloo, Ont.

FOR SALE—Dental Practice, Windsor, Ont. Apply Ash & Sons

FOR SALE—Dental Practice, St. Stephen, N.B. Apply Ash & Sons

FOR SALE—Dental Practice, Langham, Sask. Apply Ash & Sons

GRADUATE ASSISTANT WANTED—New Brunswick. Must be Experienced. Apply Ash & Sons.

GRADUATE ASSISTANT WANTED—Ontario. Apply Ash & Sons.

WANTED—Position as Dental Mechanic by lady with four years experience. Best of references furnished. Apply Ash & Sons

---

SECOND-HAND GOODS

1 S.S.W. Pattern Chair, Leg Base - - - - - $30

1 Special Golden Oak Cabinet with Mirror and Medicine Top, practically new - - - - - - - - 60

1 Davis Gasometer, less Face Piece and Tubing, excellent condition - - - - - - - - - 18

1 Davis Gasometer
1 Mills Centrifugal Casting Outfit } - - - - - 25
1 Olivian Swager

1 Large G. O. Cabinet. A-1 condition. A bargain - - 60

1 Ritter Overhead All Cord Engine, 110 V., D.C. - - 75

1 Clark Cabinet
1 Case Chair } - - - - - - - - - 30

1 Electro Dental Water Glass Heater - - - - 9

2 Ritter Battery Engines. New. Will sell cheap.

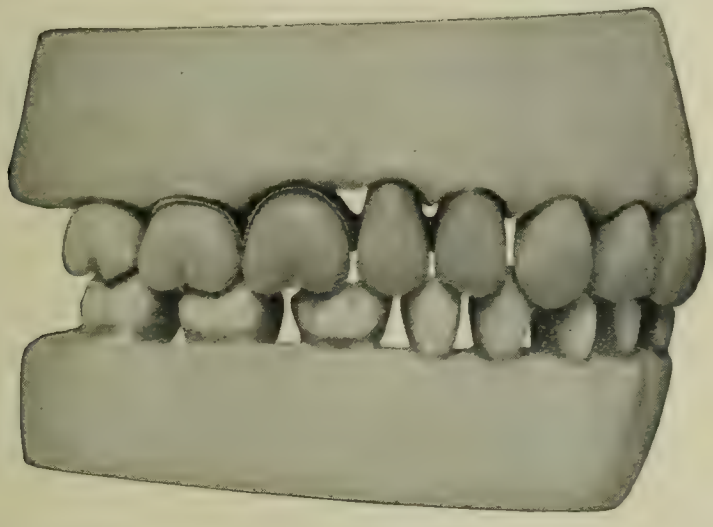
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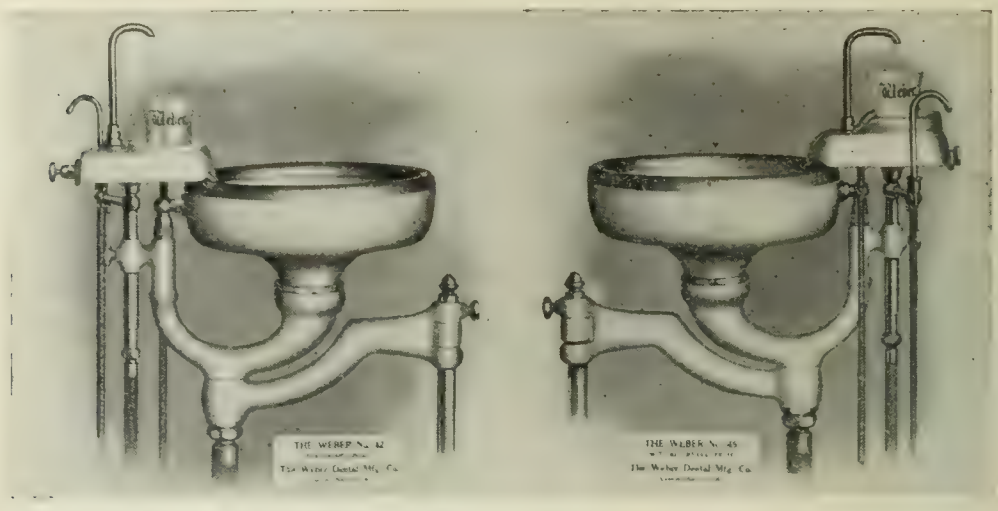
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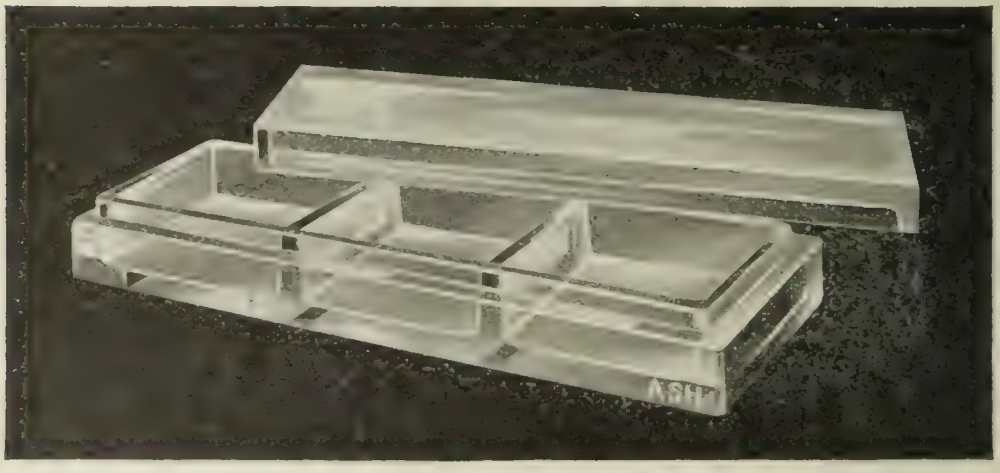
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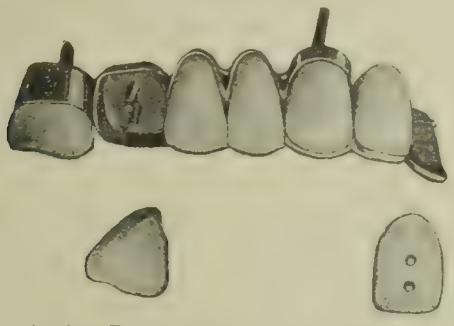
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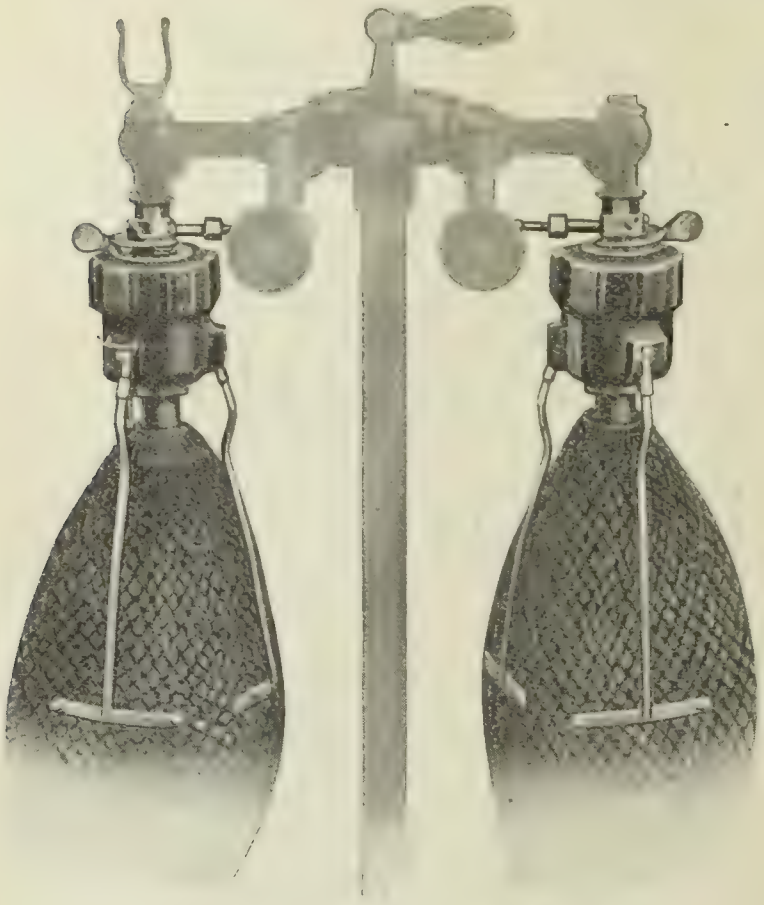
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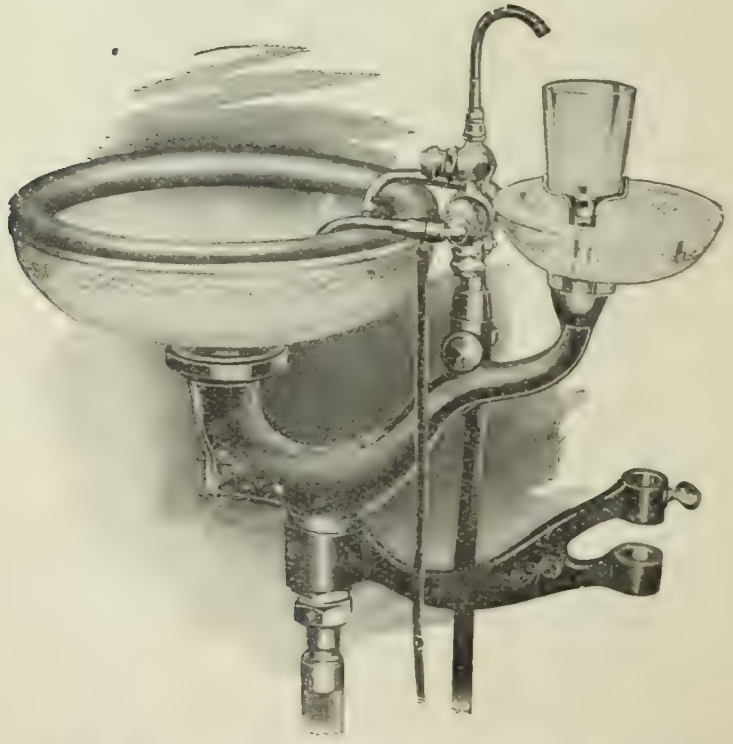
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The anterior teeth are much thinner than any other forms of pinless teeth. They are supplied in anatomically matched posteriors with natural forms for the incisors.

Perfect results can be obtained in all cases, provided the **wax is thoroughly scalded out** and all traces of grease are removed with methylated spirits. We have also a well assorted stock in bicuspid and molar eights in long ridge and very shallow patterns.

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Claudius Ash, Sons & Co., Limited

VOL. 5 No. 9

ASH'S CANADIAN QUARTERLY

ISSUED FROM TORONTO, MAY. AUG. NOV. FEB.

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—*Ruskin.*

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MAY, 1915

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A Tennis Champion.

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Ash's Canadian Quarterly Circular

VOL. V. TORONTO, MAY 1, 1915 No. 9

THE SCIENCE OF THE DENTAL ELEVATOR.

By THOMAS QUINLAN, L.D.S.,

Hon. Dental Surgeon, Cardiff Infirmary.

In dealing with the subject of the Elevator apart from Forceps in the extraction of teeth, I feel I am opening up new ground, and paving the way for a better understanding of a much-neglected but none the less vital subject

The present-day ravages of caries amongst young and old, rich and poor, particularly the poor, produce a condition of the teeth which even the most expert operators often fail to deal with successfully; and experience teaches us that there are very few operators who are really efficient in the use of the elevator, and a large number who have never formed a correct idea of how an elevator should be constructed and finished. I need hardly say that I shall not offer any lengthy introductory remarks, but plunge at once into my subject.

It is always difficult to deal with essentially practical matter in theoretical form, but by the aid of illustrations, added to, I hope, brief and lucid descriptions of every tooth in the mandible and maxilla, my readers will have no difficulty in following and, I trust, gleaning some practical aid in the difficulties met with in daily practice.

A long experience of elevators has taught me that they are as indispensable to the dental operator as reserve and auxiliary forces are to an army on the field of battle.

No operator can with absolute certainty in any particular case rely upon the success of the forceps. The reserve forces are, therefore, the elevators, and, personally, I look upon them as almost infallible, and I never begin a case without having them in reserve. It must not be inferred from these remarks that I court or love these instruments to the exclusion of forceps. On the contrary, I frequently remove a whole mouthful of roots

without their aid, but for carious and embedded teeth, and other irregularities, they are indispensable.

Day by day we hear of the dangers of the elevator, and the many objections to its use, but a reasonable contention is that very few embedded or deep roots can be dealt with without its aid.

As successful manipulation can only be attained through the avenue of failure, I cannot claim to have reached proficiency as rapidly as I hope, by the aid of this treatise, to add to the efficiency of others.

Before proceeding further, I may here mention that I am not dealing with the elevators as commercially or professionally known, but with scientific instruments to be presently described. One would not, for instance, attempt to open an abscess or operate on any part of the body with a blunt lancet or knife; why, therefore, expect to operate successfully on bone with a broad, blunt-pointed elevator, or expect to wedge it under or between the necks of two teeth without the danger of loosening both or fracturing the one intended to be elevated? Assume, for instance, the aforesaid description applied to a second upper bicuspid, either right or left, and an ordinary straight elevator be reduced at the point until it is about half as broad and fined down proportionately, making the point sharp enough to cut through the bony process. Mechanically and surgically the case is thus simplified. The elevator is then pressed or wedged well under the root, and at a point where its deviation from the root of the adjoining tooth leaves plenty of room to lever in the desired direction, using the bony process as a fulcrum and the neck of the first bicuspid as a guide and only partially as a fulcrum, keeping the finger on the first bicuspid as an extra precaution against the possibility of loosening; depressing the tooth or root downwards and outwards, and using as little leverage as possible.

With this preliminary illustration I will proceed to describe the elevators required, and figuratively get them to work in their respective spheres of action. I may here assume that I am dealing for the most part with practical men, with qualified dentists who know the surgical anatomy of the parts they are dealing with, so that I may confine myself as much as possible to the main subject.

I need hardly repeat that the elevators in ordinary use are too clumsy, and are dangerous even in the most skilled hands. Desirable patterns should be procured, and many of the old ones can be filed down for use as extras or reserves.

The elevators required are: (1) A pair of ordinary shape angular, properly reduced, for right and left lower molars and bicuspids. (2) Two straight elevators, one fine and one very

fine. These are the most useful instruments of all, principally used for upper teeth, but when a little proficiency is attained they may be found useful in very difficult lowers (details hereafter). (3) One very obtuse angle, being about 145°, or a slight deviation from the straight. This is a special pattern, and personally I look upon it as indispensable. One has only to handle the instrument and examine a lower wisdom root or impacted tooth to realize its utility and value. I may say it was designed originally for upper wisdom teeth. The three forms described leave nothing further to be desired, and a judicious acquaintance with their use will make all the difference between success and comparative failure to an operator.

It may not be amiss to make some general observations and suggestions before proceeding in detail with the use of these elevators. When it is necessary to remove teeth or roots which appear either simple or difficult, our one object is success; failure is disappointing to ourselves and painfully so to our patients, and does not enhance our reputations as specialists, for how often do we hear from our patients that a medical practitioner has extracted their teeth or their friends' teeth, or even extracted one that Mr. Somebody, the dentist, failed to remove? Even within our own profession we must look the facts straight in the face. We sometimes find that a patient goes to Dentist No. 1, has a molar crown broken off, and is dismissed as plausibly as possible. Dentist No. 2 is visited immediately afterwards, and if he can use the elevator (a finely constructed one) he removes the roots without difficulty, probably under N_2O. Surely this should not be the case with dental specialists, and therefore the matter calls for reform of some kind. Operators should either aim at higher skill, or adopt the American practice, viz., of passing the case on or calling in an expert to operate.

Although further illustration is hardly necessary, I may mention one particular case which came under notice while writing these notes. A noble client, who, to use his own words, had a tooth extracted in town a fortnight previously, and coming for a few weeks' sport in the country, had had a miserable time of it. He made my acquaintance in the hunting field, and examination next day revealed two roots of the first right upper bicuspid broken down to the point of bifurcation. A delicate straight elevator brought the roots away separately under N_2O. Had the highly qualified practitioner who operated known of, and how to handle the aforesaid elevator, this record of the difference between theory and practice would have been unnecessary.

Although my object is to promote the skilful and successful use of improved and properly constructed elevators, it must not be assumed that these elevators are intended in the least to conflict with, or usurp, the legitimate use of forceps; on the contrary, they have their own special functions, which should not be abused.

They are auxiliary forces, and should not be called into action until there is doubt about or difficulty in using forceps, the main army. This should be the fundamental and general rule, but exceptions are, of course, taken advantage of by expert operators.

Although the most approved and improved patterns of forceps, skilfully used, would leave less work for elevators, it is my intention to deal only with elevators, and particularly in cases in which forceps offer little or no prospect of success. There may be a few operators who rarely, if ever, use an elevator; in fact, I may say of my own knowledge that such is the case. Again, there are a few whose experience has been painfully unsuccessful, and perhaps costly; but the clumsy instruments in general use, handled by unsteady or hesitating hands, may easily account for failures. This fact must be my excuse for any apparently superficial details or cautionary remarks in dealing with the practical application of the elevator. In using this instrument, with or without the aid of anæsthetics, the operator must, above all things, keep cool and steady (we cannot all naturally do so), and guard against undue haste. I am now assuming a difficult case. The correct elevator chosen (and if it has been used a number of times the point should be ground sharp on the extreme edge, so that, instead of slipping, it will work under the object to be elevated and cut through the bony process if necessary), and the point being fixed and well directed, it should be forced home by slightly lateral movements, in order to give complete control over the direction of the point and the depth to which it is to be forced; then the necessary force, direction, leverage, and fulcrage should be applied—in short, the elevator should be controlled as a penman controls his pen, or an artist his brush; but these points will be further dealt with later on by detailed descriptions.

PRACTICAL DETAILS OF THE ELEVATOR AT WORK IN THE REMOVAL OF EVERY ONE OF THE 32 TEETH ENUMERATED.

Case No. 1—Left Upper Third Molar or Wisdom.

Assuming that there are no teeth missing on the left side and the third molar root has to be removed, this is invariably difficult to see, because in persons who possess the complete number of teeth the masseter muscles are often constricted and the mouth cannot be opened wide, added to which there is perhaps elongation of the second molar. The region should be carefully examined with mirror and probe to make quite certain of position and solidity. If location of root and flexibility of the lips and cheek allow, a straight elevator should be used; if they do not allow, the obtuse angle elevator should be employed. The oper-

ator, standing, of course, on the right side of the chair, should rest the patient's head in a position comfortable for operating, but not reclining too much. The operator's left arm should be fixed firmly round the patient's head, and the left forefinger should rest on or near the second molar—a position suitable for lifting the lips and cheek and giving a clear view. Further, the operator's head should be bent forward over the patient, and the elevator should be grasped firmly in the hand, the thumb extending along the blade to within about three-quarters of an inch of the point, or as near this as possible, to ensure full control of the blade and to avoid the possibility of accident from slipping, etc. The elevator should be fixed at almost a right angle to the root, and nearly horizontal, pressed well home so as to depress, and even cut through when necessary, the outer wall of bone. Leverage alone should not be depended upon, but the point of the elevator should be depressed and both the neck of the anterior tooth (second molar) and the bony process by the gum margin should equally share in distributing the force or fulcrage necessary. The root should be pressed downwards and slightly outwards, never directly backwards; by such action it will be forced out towards the cheek and easily removed with the finger.

The danger of direct backward movement or undue force in that direction is fracture or removal of the tuberosity—a very undesirable complication—although sometimes a small piece may come away firmly attached to the root even with the most careful handling; however, the greatest care is necessary. Should it happen that a part of the tuberosity comes away with the tooth or root, it will remain firmly attached to the dense membranous covering, and great care will be required, with the lancet or scalpel, to separate the bone and root from the gum. There should be no undue haste, certainly no force until the bone is clearly separated from the gum. The finger of the left hand should play an important part in steadying or holding the flesh during this operation. I need hardly add that should this unusual and undesirable accident occur, and a forceps be used for removing the bone before it is quite separated, the palate or fauces may become lacerated. Such an accident once happened to me when I was removing an ordinary left upper wisdom tooth with forceps, and it was subsequently a delicate operation to put one or two stitches in with a fine curved needle.*

One point I would firmly emphasize, and it is this: The operator should never attempt to remove this tooth or root by standing in front of the patient, because in this position absolute control of the fingers and hands is checkmated by the muscles of the arms and shoulders; moreover, it is, so to speak, working in mid-air and courting accident; whereas, if it is always removed as described, he has control over the movements of the patient's head.

Case No. 2—Left Upper Wisdom, where second and perhaps first and second molars are missing.

In this instance the root has naturally moved forward and requires different treatment. The straight elevator may be forced well under the anterior portion of the root, and the first molar or second bicuspid used partly as a fulcrum. the pressure, as already described, should be downwards rather than backwards, but in this case there is very little danger of interfering with the tuberosity. When the bicuspids are gone and no natural fulcrum remains, the second finger of the left hand should be placed under the elevator to act as a rest for the blade, to steady it and thus to prevent a slip or a too sudden jerk while depressing the point in the act of removing or even loosening the root. The operation can be finished with fingers or forceps.

Case No. 3—Left Upper Second Molar roots where first and third molars are sound.

The method of operating will be the same as described in Case No. 1 (third molar). Standing on the right-hand side of the patient, the left arm fixing the head firmly, always levering from the anterior position, using the neck of the first molar and gum margin as a fulcrum, also the second finger of the left hand as a rest under the blade of the elevator, the first finger naturally lefting up the side of the cheek, the pressure to be downwards and outwards as in Case No. 1 for the third molar.

Case No. 4.—Left Upper First Molar.

This requires practically the same treatment as the second molar, with this exception: the buccal root can, if necessary, be more safely levered from the back forward, and the splitting of the roots is more often applicable. There is, however, this difference in the case of the first molar: the tooth anterior to it, which is used more or less as a fulcrum, is a bicuspid, and is, therefore, a weaker tooth than a molar, consequently much less force can be used against it; but here the fingers again play an important part in steadying the bicuspids and assisting as fulcrum, guide, and rest.

Should the crown be badly broken down and the roots seem well defined and easily split-up or separated, a very fine straight elevator should be used in this way: press gently up in the centre of the roots, through the pulp cavity, give the instrument a twist and, at the same time, a slightly downward movement, and the roots will become separated, or perhaps removed, in the attempt. In any case it will tend towards simplifying the further attempt in the ordinary way, from the neck of the anterior tooth.

One word of caution is here necessary, namely: Should the splitting operation seem desirable, upward force should be avoided, as, in the case of abnormally long roots, the antrum may become penetrated through forcing one of the roots which may already be attached to the floor of the antrum cavity.

Ash's Dowel Crowns

The following pages show some of our moulds of Ash's Detached Post-Crowns, are well worth close examination and study. The illustrations will be valuable as a reference and guide in ordering by mail. Keep these illustrations in a convenient place, as, of course, you will become a user of them when you are conversant with their superiority over any of the existing dowel crowns.

The price, too, is a great consideration—make a note of it—

12 cents each.
$10.00 per hundred.

Outside of the recognized value they have, as being made of our celebrated mineral, positively the only body that can be *successfully* polished after grinding, the moulds are the most serviceable. Notice in the Anterior and Bicuspid teeth, the provision for roots that are large bucco-lingually.

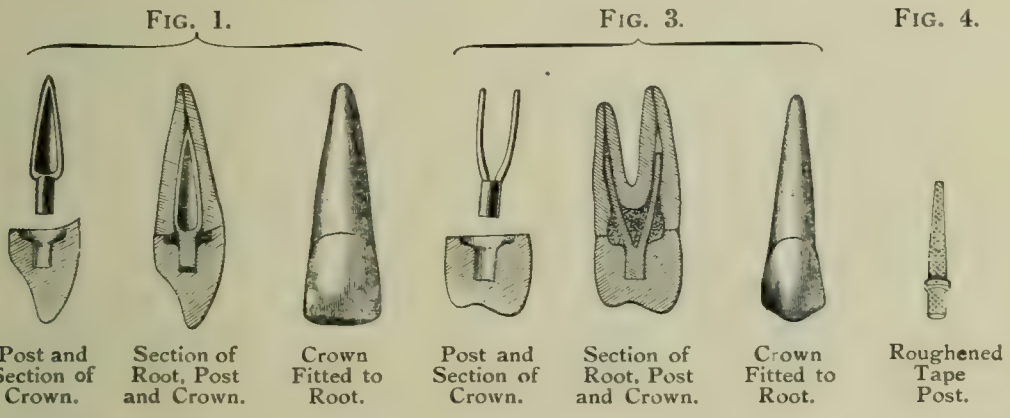
Note also the recess in the crown that takes the post. It is etched in each and every crown, assuring you of perfect cementation. We are also making now the labial aspect of our crowns much longer than shown in the illustrations. This improvement is obvious.

Ash's Dowel Crowns

The principal advantages of a detachable crown, as contrasted with a crown having a pin fixed in the mineral, lie in the facilities afforded for grinding the base of the crown to fit the root and for bending the dowel to the angle required to obtain a correct bite.

In Ash's Dowel Crowns the measurements and shapes of the bases are such as to fit the greatest number of average roots.

Posts for Crown Work



The Fluted Post (Figs. 1 and 2) and the Bifurcated Post (Fig. 3) are made of Dental Alloy, which is more rigid than Platinum. The strongest part in them is the part which has to bear the greatest strain, viz., where the crown joins the root.

Fig. 1 is made in two sizes, large and small. The large size is suitable for upper roots in general, and the small size for the roots of narrow upper laterals and the roots of lower teeth.

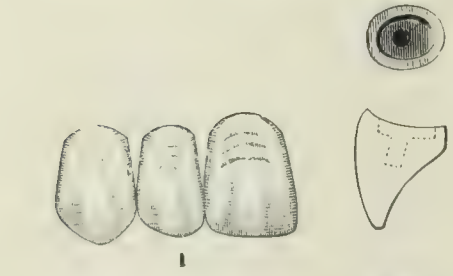
Fig. 2. Not illustrated. Similar to Fig. 1, but smaller.

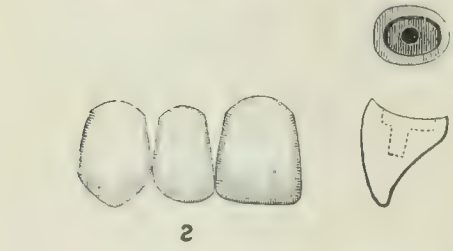
Fig. 3, for the bifurcated roots of bicuspids, is extremely strong, and yet the prongs are sufficiently pliable and thin to admit of their adaptation to the bends of root-canals.

Fig. 4 is a tapered post of great strength, made from a stiff white metal. It is roughened all over in such a way as to afford a very firm and secure hold to the cement which is used for joining the Crown to the Post and setting the Post in the Root.

Fig. 5. Not illustrated. Similar to Fig. 4, but smaller.

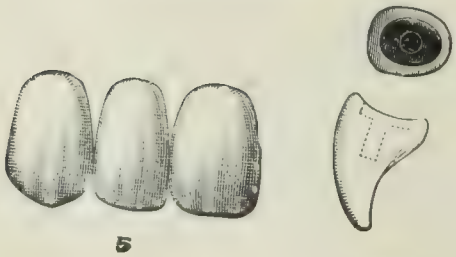
ASH'S DOWEL CROWNS—UPPERS

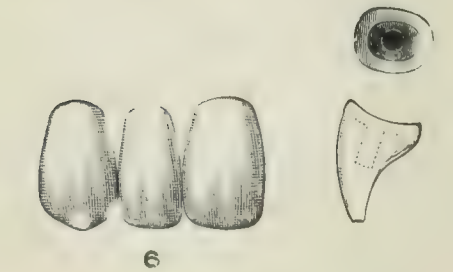

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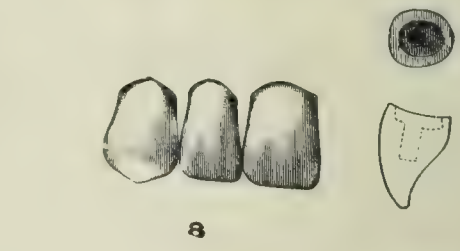

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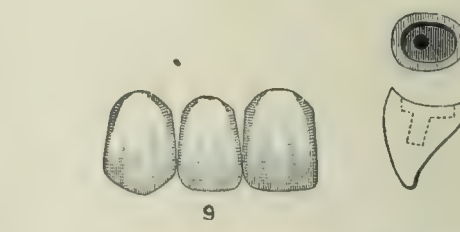

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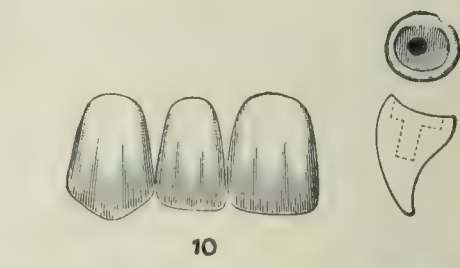

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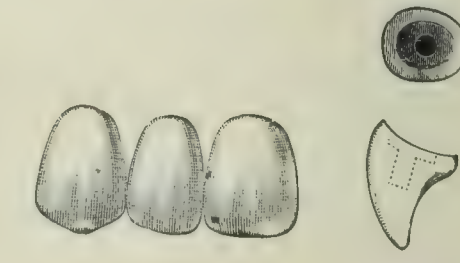

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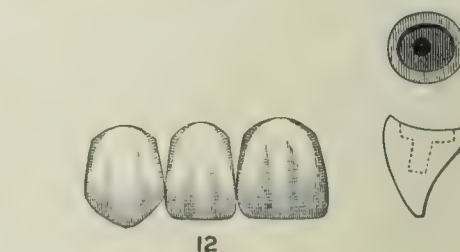

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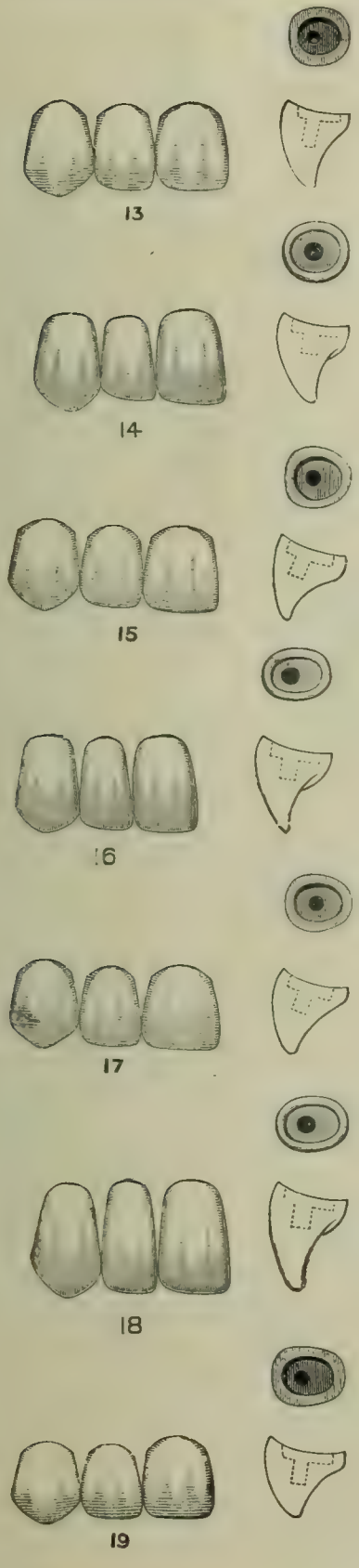

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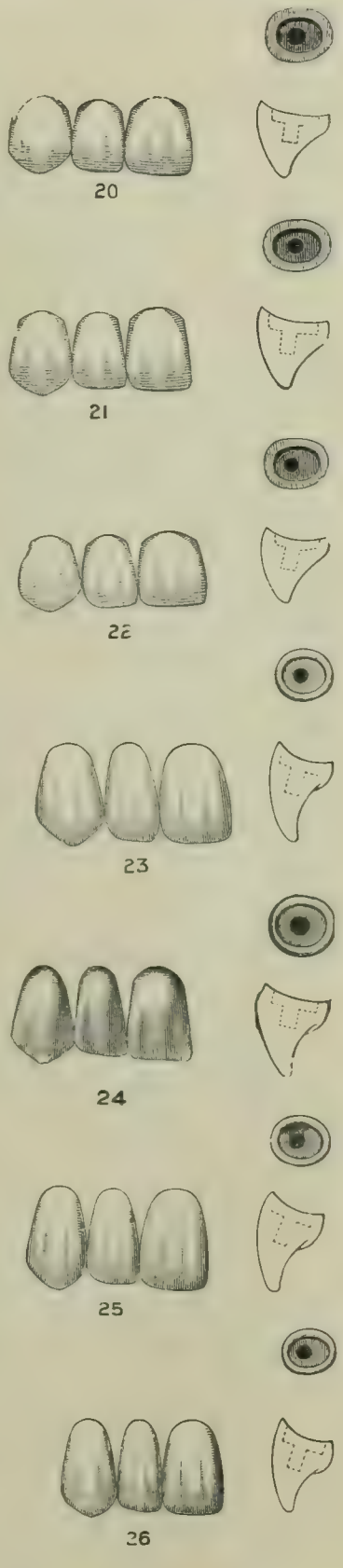

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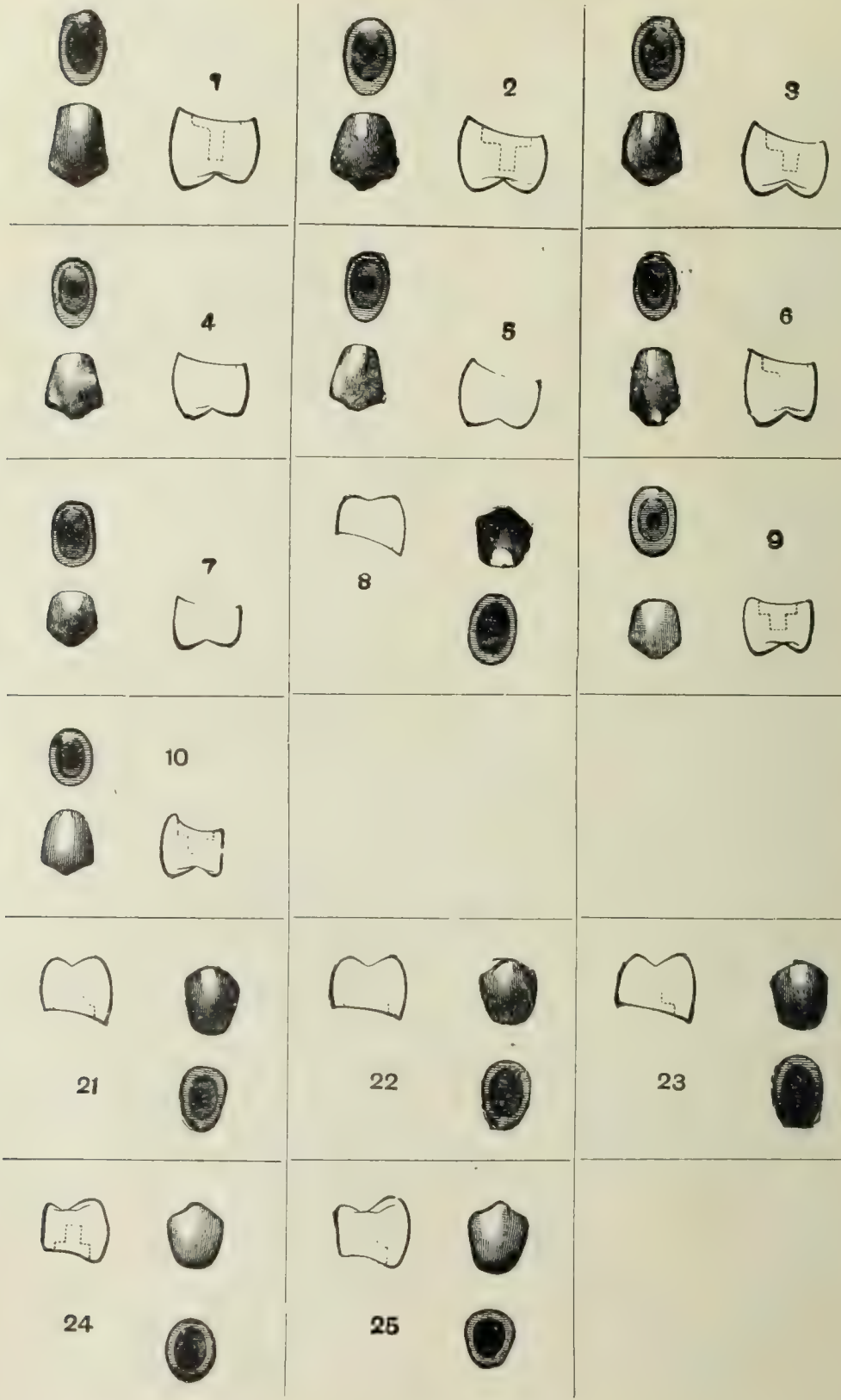

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ASH'S DOWEL CROWNS—UPPERS





ASHS' DOWEL CROWNS—BICUSPIDS



ASH'S DOWEL CROWNS—LOWERS



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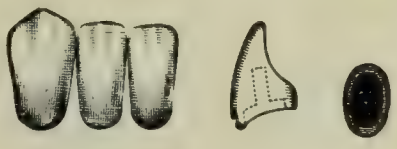
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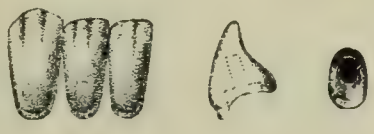
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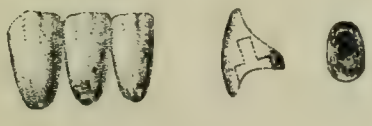
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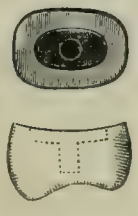


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MOLARS



1



4



7



2



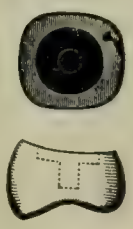
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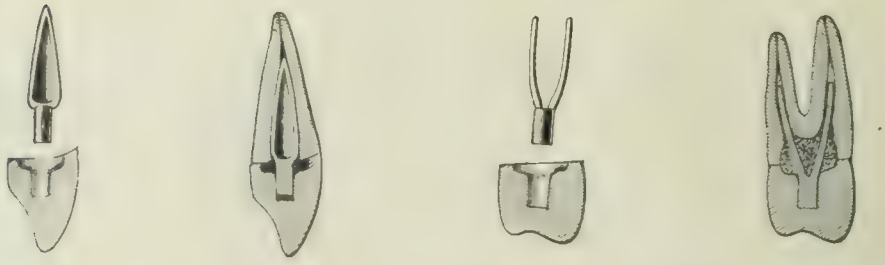


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9

Ash's Dowel Crowns



The principal advantage of a detachable crown, as contrasted with a crown having a pin fixed in the mineral, lies in the facility afforded for grinding the base of the crown to fit the root and for bending the dowel to the angle required to obtain a correct bite.

In Ash's Dowel Crowns the measurements and shapes of the bases are such as to fit the greatest number of average roots.

The dowels are made of the best quality Dental Alloy, and are much more rigid than Platinum; they are strongest at the part which has to bear the greatest strain, viz., where the crown joins the root. Those intended for bifurcated roots of Bicuspids are extremely strong; at the same time the pin ends are sufficiently pliable and thin to allow them to follow the bends of root-canals. We need hardly emphasize the serious objection that exists to the insertion of a base metal pin in a natural root.

Made in sets of six—Centrals, Laterals, and Canines in thirty sizes and patterns, Bicuspids in fifteen sizes, and Molars in fourteen sizes; other sizes in preparation.

Each	12c
100 Crowns	10c
500 Crowns	9½c
1000 Crowns	9c
Single Pins, in two sizes, in Dental Alloy...each	40c
Bifurcated Pins, in Dental Alloy.....each	50c
Base Metal Pins.... .....each	5c

Let us send you a nice Case of two hundred Dowel Crowns

TWENTY DOLLARS

You cannot get One Hundred of any other reputable Crown for less than

NINETEEN DOLLARS

Added to this Ash's Mineral Body of which all our teeth and crowns are made, is the only body that can be successfully polished after grinding.

Our Moulds are the most natural and the grinding surfaces are better than on any other make of Crowns

---

Claudius Ash, Sons & Co., Limited

Ash's Medicine Bottles

MADE IN ENGLAND



A nice assortment of these bottles all labelled, makes a good impression. The labels on these bottles are burned on and are therefore practically indestructible.

We carry a good assortment of these labelled for the most popular drugs, but we will have any labels burned to your order.

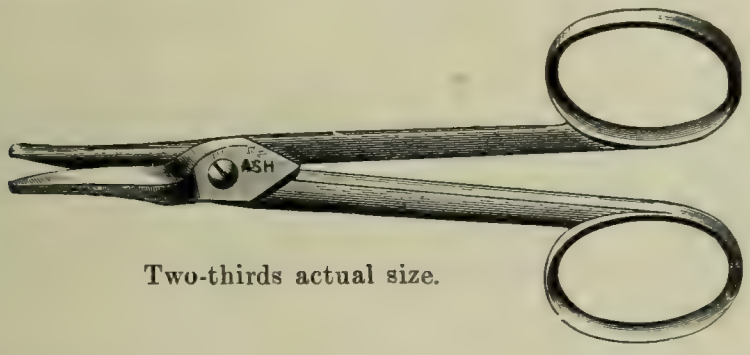
In Neat Cardboard Box, Each 50 Cents

Claudius Ash, Sons & Co., Limited

Universal Crown Scissors

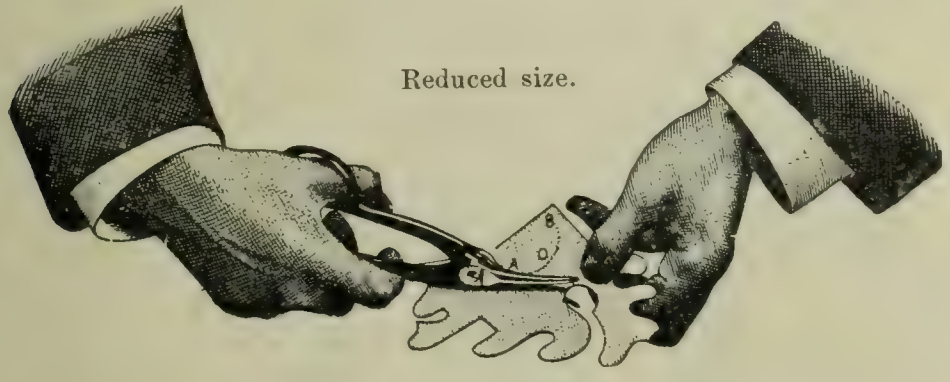
(Specially Tested.)

The most useful form of Scissors on the market; an invaluable tool for the Dental Laboratory, with which the same work can be done as with the ordinary right or left, straight or curved, Crown Scissors.



Two-thirds actual size.

The blades of the Universal Scissors are set at right angles to the handles and thus stand away from the work; only the cutting edges come in contact with it; the blades can therefore be freely turned in any desired direction without danger of bending or twisting, or tearing the metal; hence straight, curved or angular cuts can be made with equal ease.



Reduced size.

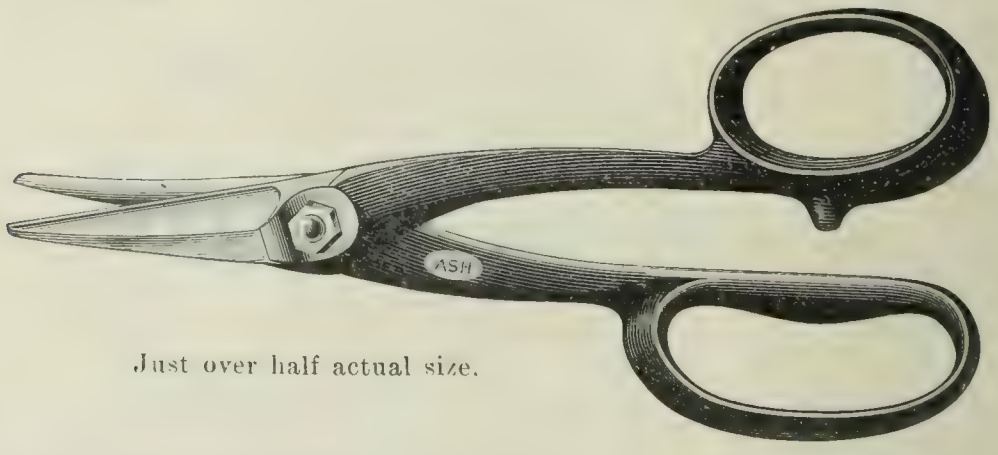
Some idea of the wide range of usefulness of the Universal Scissors may be gathered from the accompanying reduced size illustration, which shows a number of various shaped cuts in a plate and how the body of the blade exposed to view stands away from the metal.

Universal Crown Scissors.....$1.60

Universal Plate Shears

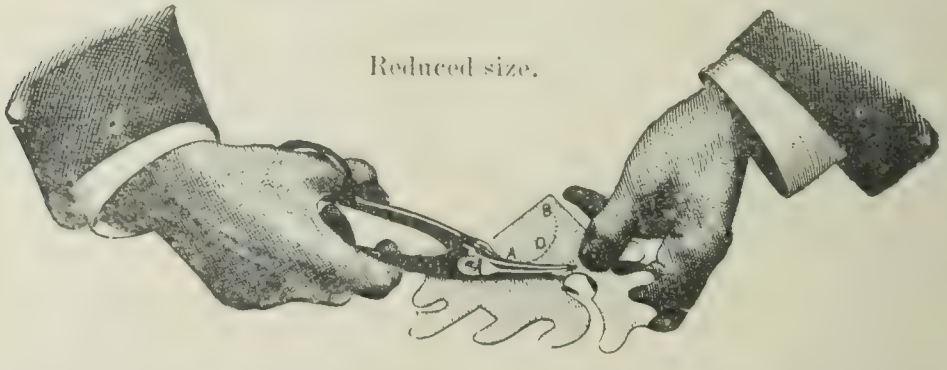
(Specially Tested.)

The most useful form of Shears on the market; an invaluable tool for the Dental Laboratory, with which the same work can be done as with the ordinary right or left, straight or curved, Plate Shears.



Just over half actual size.

The blades of the Universal Shears are set at right angles to the handles and thus stand away from the work; only the cutting edges come in contact with it; the blades can therefore be freely turned in any desired direction without danger of bending or twisting, or tearing the metal; hence straight, curved or angular cuts can be made with equal ease.



Reduced size.

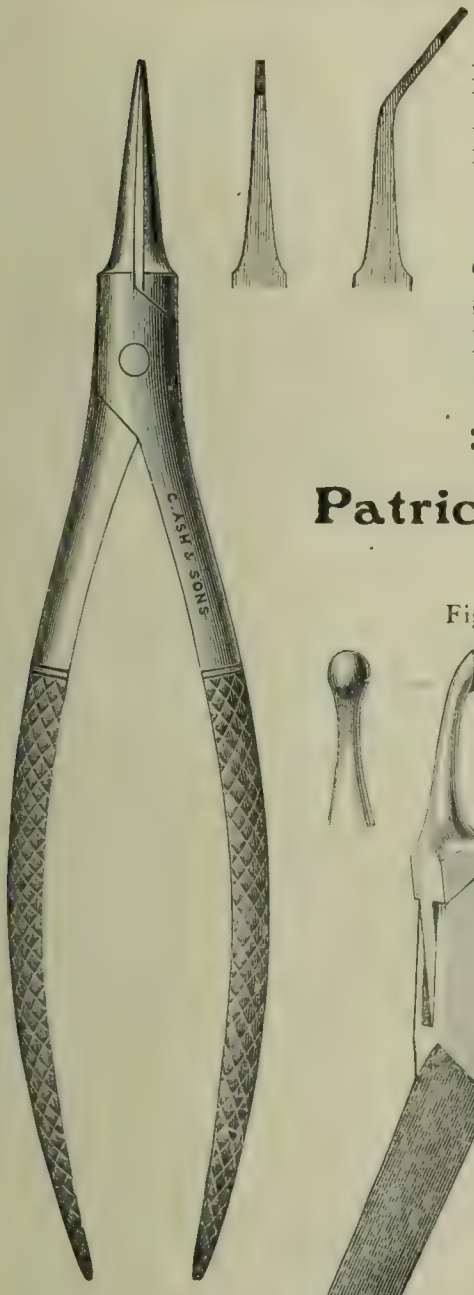
Some idea of the wide range of usefulness of the Universal Shears may be gathered from the accompanying reduced size illustration, which shows a number of variously shaped cuts in a plate and how the body of the blade exposed to view stands away from the metal.

Universal Plate Shears, Japanned Black
with Nickel-plated Blades $1.75

Ash's Nerve Canal Pliers

Straight and Curved

For Removing Broken Drills from Root Canals



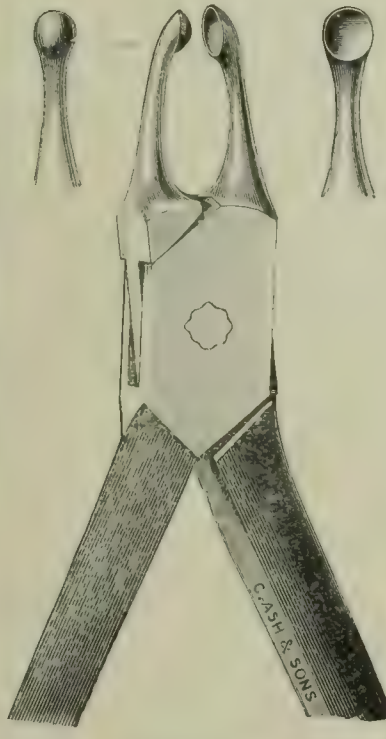
In preparing root canals for filling it sometimese happens that a drill is broken, and the question then arises how the piece left in the root can best be extracted.

The points of these Pliers are fine enough to enter the root canal and to grasp the thin stem of the broken point that is lodged within it.

Price, Straight or Curved, $1.35.

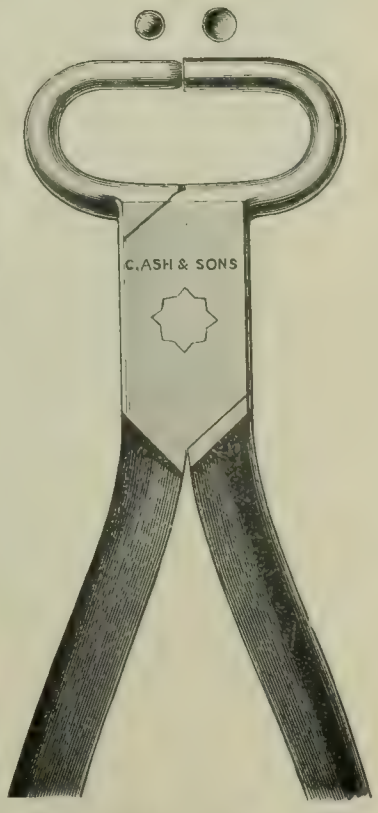
Patrick's Contouring Pliers

Fig. 1.



$5\frac{3}{4}$ in. Long.

Fig 2.



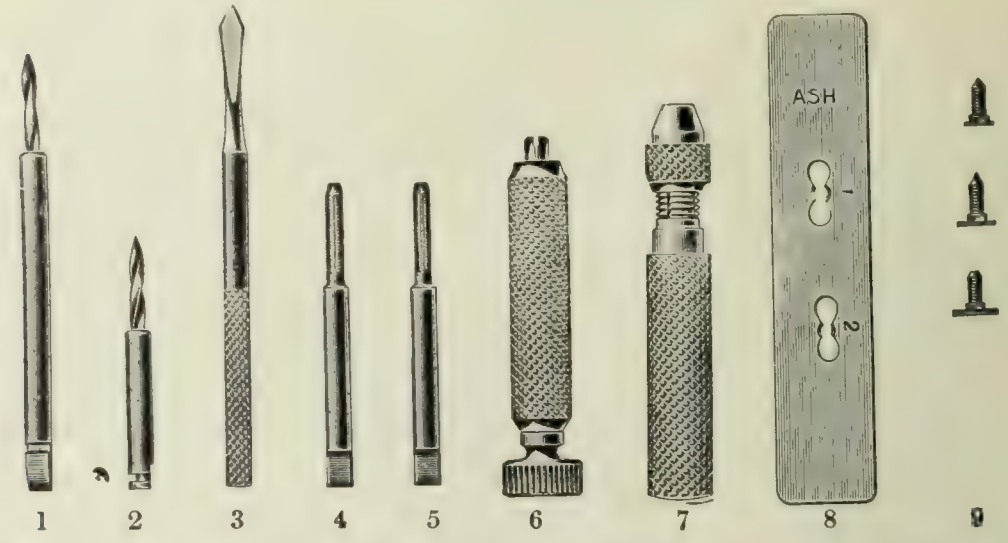
$5\frac{1}{2}$ in. Long.

These Pliers are too well known to need an elaborate description. Pattern No. 2 finds the most favor. It should find a place in every laboratory.

Price either pattern..... ....$2.00

Ash's Repair Facing Outfit

Suggested by MR. H. J. CORIN, L.D.S., Eng.



Figs. 1 and 2, Twist Drills for Straight and Right Angle for drilling hole in backing.
Fig. 3, Countersinking Tool for removing burred edge and countersinking the hole.
Figs. 4 and 5, Screw Taps, large and small.
Fig. 6, Holder for carrying Gold Stud and screwing it into position.
Fig. 7, Holder for carrying small and large Screw Taps, Figs. 4 and 5.
Fig. 8, Screw Plate for the Dentist's use in making his own Gold Studs, should he desire to do so.
Fig. 9, Small, medium, and large Gold Studs.

DIRECTIONS FOR USE:

In the event of a tooth breaking off a bridge or a plate and bringing away with it one of the pins, leaving the other standing in the backing, cut off the standing pin, grind the backing flat with a small carborundum point, drill a hole in the centre of the backing, remove the burred edge formed by the drill, with the countersinking tool, tap the hole with the small tap (Fig. 5), follow on with the large tap (Fig. 4); again clear away the burred edge with the countersinking tool, fix the stud selected in holder (Fig. 6), and screw it into position right up to the shoulder. The case is now ready for the Repair Facing to be cemented on the stud.

To cement a Repair Facing on the Stud.—Select a Repair Facing of the same size as the broken-off tooth, remove all traces of wax from it, thoroughly cleanse it and the backing with chloroform or pure alcohol; mix C.A.S. Cement or Ash's Inlay and Crown Cement to a thin creamy consistency, smear the backing and the back of the Facing with it, also fill up the undercuts in the oval cavity of the Facing, press the Facing to place, hold it firmly in position for four or five minutes, then trim away excess of cement and coat the exposed edge with Ash's Varnish.

NOTES.

1. The method described above is applicable when both pins come away with the tooth.

2. Should both pins be left standing, in the space left by a broken-off tooth, a Repair Facing can be cemented on them.

Ash's Repair Facings

Made in the patterns shown in booklet which can be had on application, and supplied in sets of 6, sets of 4, pairs and odd.

The three sizes here illustrated are intended to show the distinctive feature to which we wish to draw attention, viz., the oval cavity in the back of each.

They can be used for repairing nearly every kind of denture; they are easily applied, exceedingly durable, and can be quickly fitted—it does not take longer than from 10 to 15 minutes to fit one.



83



71



14

They are invaluable for repairs to Bridges, and in all cases of Plate and Crown work in which a flat tooth has to be replaced.

The oval cavity at the back of each Facing corresponds with the positions of pins in our Flat Pin Teeth. The Facings do not require backing, but can be applied to the backings of fractured or broken teeth when the broken portions of mineral have been removed from the backings.

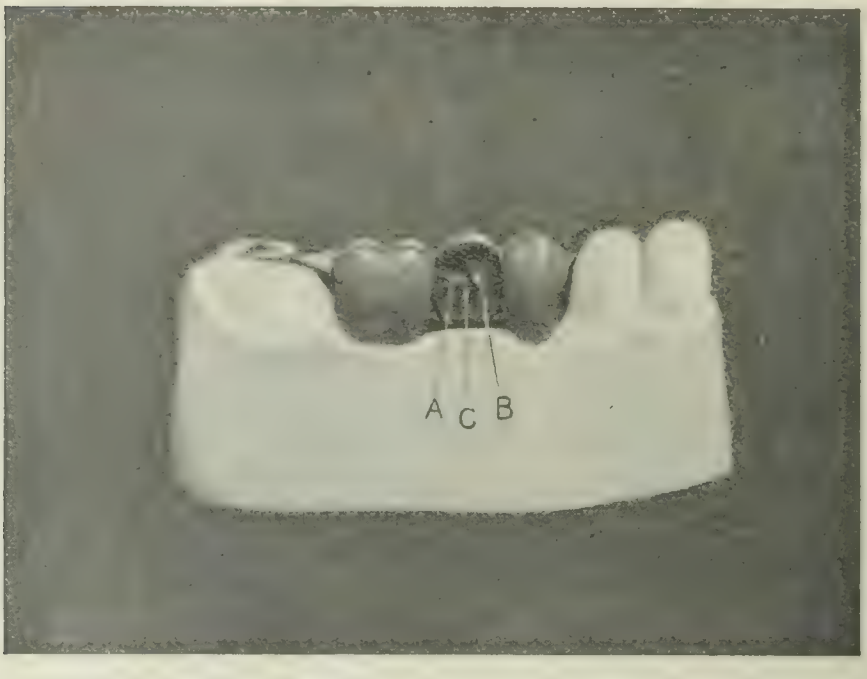
IMPORTANT NOTE.

For attaching these Repair Facings to teeth backings, etc., we recommend our **C.A.S. Cement**, or our **Inlay and Crown Cement.**

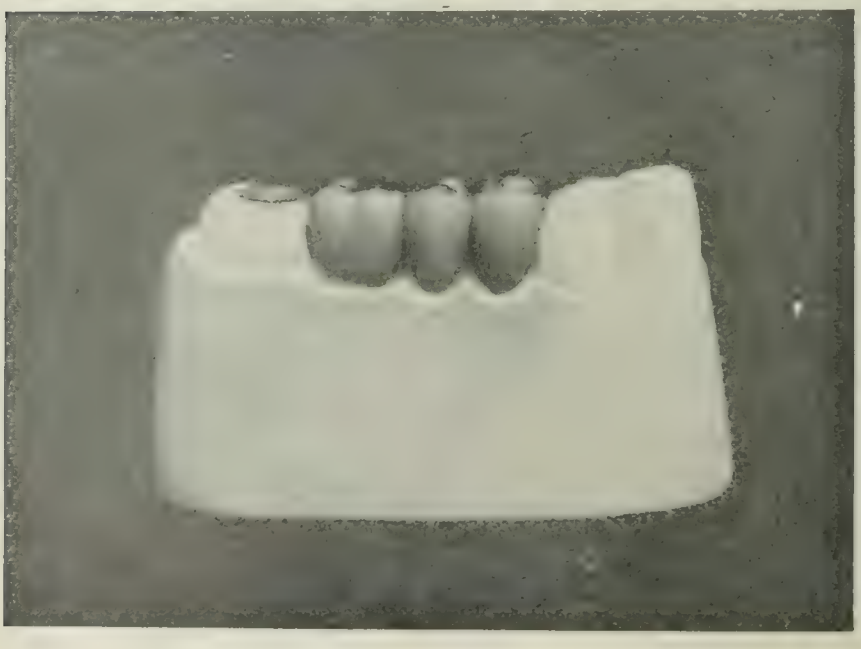
PRICES:

Per Tooth - - - -	.25
Per 100 Teeth - - -	$18.00

Ash's Repair Facing Outfit—*Continued*

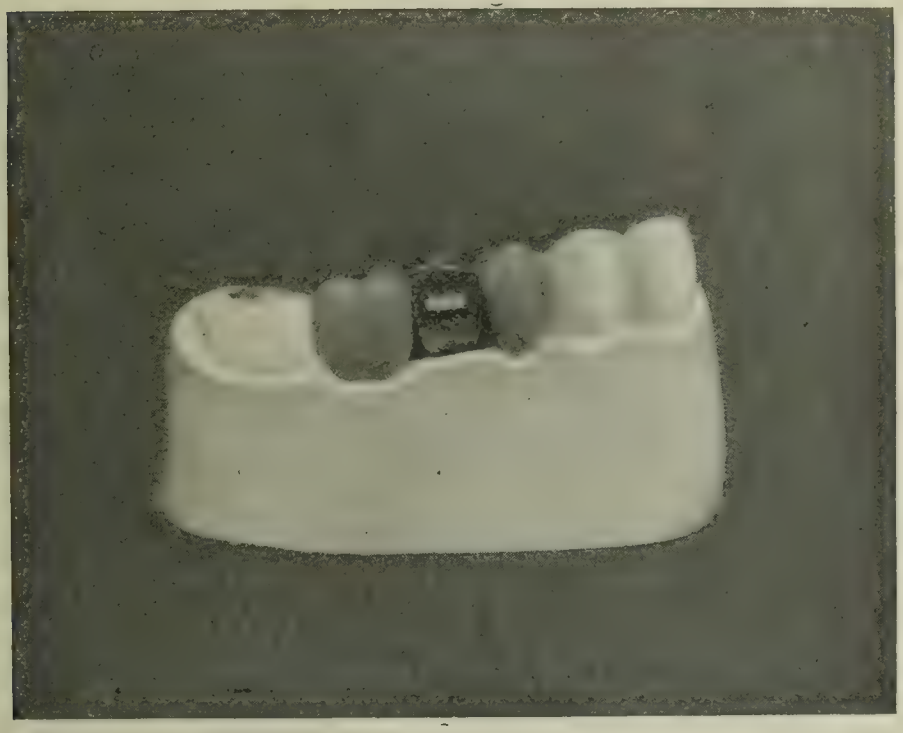


A—Broken Pin. B—Pin left standing
C—Spot where new hole should be drilled and tapped.



Repair Facing cemented on to Stud.

Ash's Repair Facing Outfit—*Continued*



PRICES

Repair Facing Outfit as per Illustration -	$5.00
Repair Facings, each - - - - -	.25
Extra Gold Studs - - - - -	.40

Send a Mail Order NOW for one of these valuable Repair Outfits and be ready for the next case of repair : : : :

Claudius Ash, Sons & Co., Limited

The Mosley Angle Holder

A New Instrument---One That YOU Need

This Angle Holder is equipped with five different instrument points that have been selected as the most useful for operations in the more inaccesible cavities.

Chisel, Burnisher, Approximal Blade, Broach Holder and Orthodontia Wrench

The holder is a positive locking device allowing the different instruments to be held at various angles and twists. The principle involved is a great advance over the old ball and socket fixture and ensures rigidness of the point.



The attachment for holding broaches and cleansers is the most positive of all holders, and allows of any length broach being used. Cut off the broach to the required length, being sure that enough of the shaft remains after it has been inserted in the attachment to engage with inside bottom of the screw socket. To remove, simply force the broach backwards through the attachment.

For Further Description see Opposite Page

The Chisel will be found most useful in operations on all posterior teeth, and is invaluable in preparing cavities for inlays in the distal surfaces of the bicuspid and molar region, heretofore inaccessible except with a burring instrument.

The thin approximal blade will commend itself to all practitioners for shaping up the wax form in the cavity and as an assistant in removing it, as well as being useful for burnishing plastic fillings.

The double-headed burnisher and approximal instrument is almost indispensible for all plastic operations.

The Orthodentia Wrench will be found invaluable to all those who practice the regulation of teeth. It allows the operator to adjust the regulating nuts, no matter at what angle they may be at.



In Neat Cardboard Box, $3.75 Complete

Direct or through your Dealer

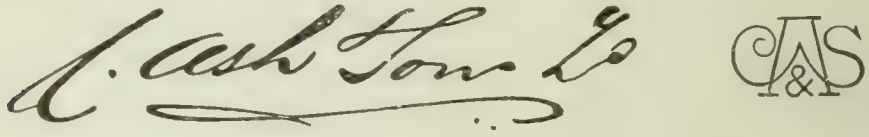
Claudius Ash, Sons & Co., Limited

Ash's Dental Rubbers

UNAPPROACHED FOR

Excellence, Purity, Strength, Elasticity, and Density

To mark the genuineness of our Rubbers, the face of every box and envelope which we supply bears this signature and monogram—



and one of the pieces of cloth in which each sheet of Rubber is packed bears this signature—



in addition to the name of the Rubber. Always ask for ASH'S when ordering our Dental Rubbers.

TRUE CHEAPNESS.

In choosing dental rubbers, **price** should not be taken as the main guide, because some rubbers which are considered cheap are really dear when they are compared with the more expensive rubbers, many of which yield from 30 per cent. to 40 per cent. more plates to the pound than some of the cheap rubbers.

If **true cheapness** is the aim of a buyer he should not fail to take **quantity** into account, since it counts for much, quite apart from **quality**.

We offer both quantity and quality.

We guarantee full weight in every box or envelope of Rubber of our manufacture, exclusive of the tracing cloth in which it is packed.

Ash's Dental Rubbers

Are the best in the World, and are the standard by which all others are judged.

NOTE.—Our Rubbers weigh 16 ozs. to the pound, exclusive of linen backing and box.

FOR COATING

	Per lb.	5-lb. lots	10-lb. lots	20-lb. lots
New Pink, Medium No. 1X Pink, Medium No. 1 Pink, Light Gum Pink, Medium Gum Pink, Light	$6.25	$5.65	$5.25	$5.00
No. 2X Pink, Medium English Pink, Medium English Pink, Light	5 25	4.75	4.50	4.25

FOR BASE

Improved Black Combination White for Side Blocks, etc Child's "G" A. E. Elastic, Dark Brown W. Elastic, Dark Brown Whalebone No. 1, Dark Brown	4.75	4.30
Whalebone No. 2, Light Brown Solid Base	4 25	3.85
Dark Red Flexible Base Dark Elastic Maroon	3.75	3 40
Red Orange Dark Brown Brown English Base	3.25	2.95

SPECIAL—FOR TENDER GUMS, ETC.

	Degree Fahrenheit	Time		lb.
Soft Pink, for lining Palates	310	1	15	$6.25
Soft Dark Red	310	1	15	4.75
Vela for Artificial Palates	270	6	0	6.25
Brown Weighted				4.50
Pink Weighted				6.25
Brown Repairing				4.75
Pink Repairing				6.25

NOTE.—Cash Discounts do not apply on quantity rates on our Coating Rubbers in any quantity over 5 lbs.

CLAUDIUS ASH, SONS & CO., Limited

Beutelrock and Gates' Glidden Drills

WE desire to draw your attention to these articles as being those in which quality of material and manufacture count for so much. Many Beutelrock and Gates' Drills are so in name only and are not worth a place in your office.

We have always used the best material obtainable, and as the work to be accomplished with them is so delicate and important, we make them to the highest standard. The price is attractive also.

For either Hand Piece or Right Angle, $4.20 per doz.

Claudius Ash, Sons & Co., Limited

PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice, Windsor, Ont. Apply Ash & Sons

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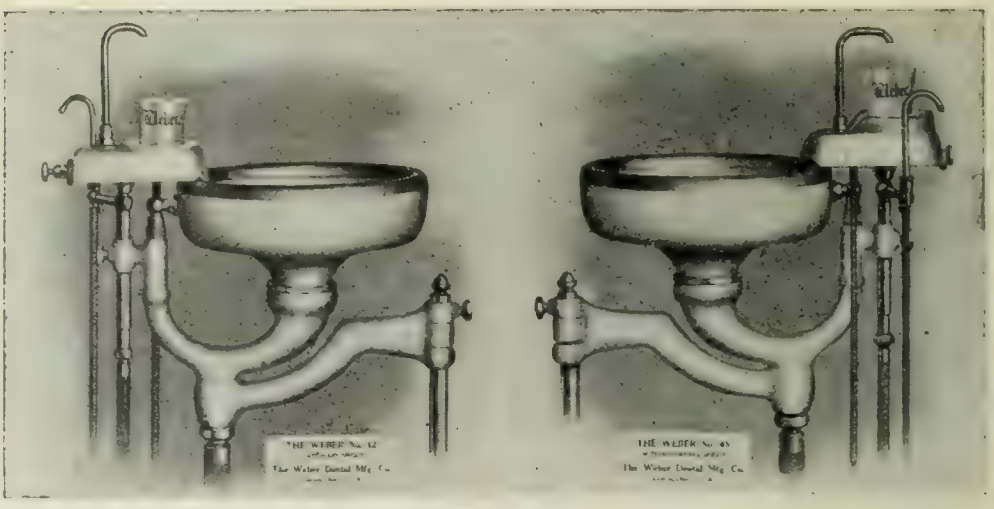
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Porcelain bridge work.

Continuous Gum Work.

All classes of Tube tooth work.

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In Platinum Pin Anteriors and Diatoric (Pinless) Posteriors is a mighty good proof of their superiority.

MOLDS that are reproductions of the natural teeth with slight modifications.

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Designed that any method of Anatomical Articulation may be used.

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Main Features—Indestructibility—Elimination of Nickle—Obscurity of Valves—Noiselessness—Low Upkeep—Bubbling Cup—Beauty and Hygiene of Appointments.

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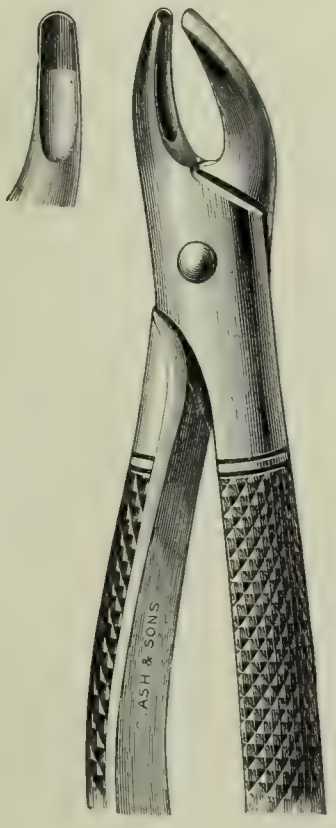
Dr. F. E. Roach—Chicago, said: "That's Great. It's the biggest advance since the inception of Fountain Spittoons. Every feature is just as it should be. I'm not very fussy about equipment, but this appeals to me. Send me the first one you finish up."

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No. 76 S

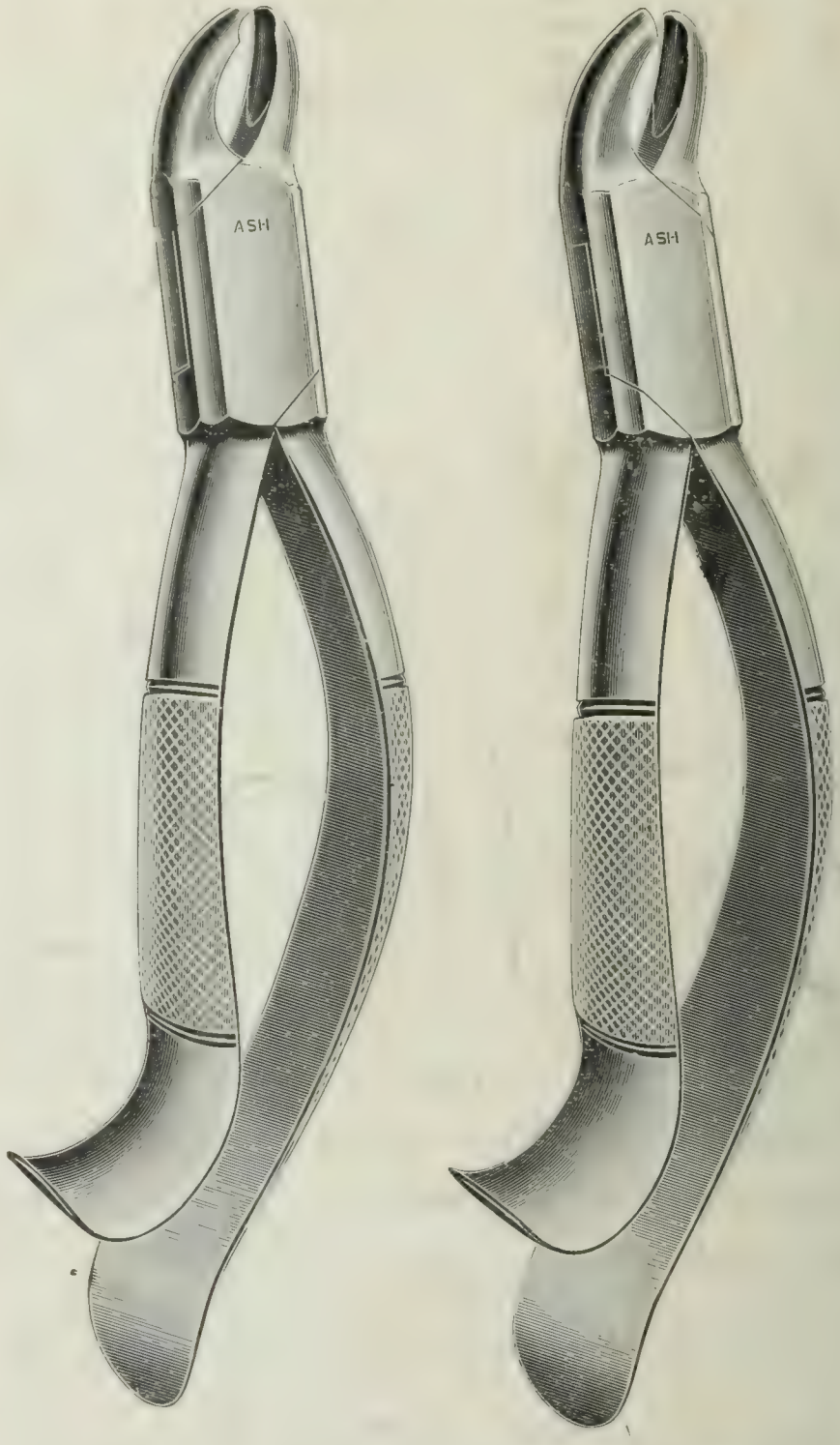


This is the best known and most used Forcep in Canada and is especially recommended by the teaching faculty of the R. C. D. S.

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We manufacture American as well as British patterns, but all are British quality and hand made—not drop forged. Patterns No. 18 Right and 18 Left as illustrated, are especially valuable.

PRICE - - $2.50 PER PAIR

VOL. 5 No. 10

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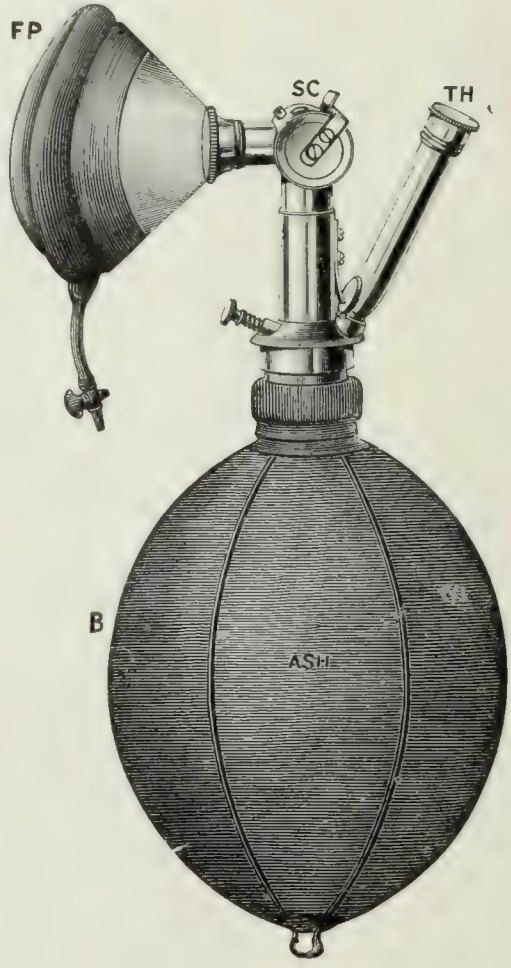
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For Somnoform or Ethyl Chloride



This Inhaler possesses all the advantages of other inhalers in which a sealed glass tube can be broken inside the metal mount. In addition it is provided with a **Two-way Stopcock,** which admits of the vapour being kept in the bag until it is required for use after the **Tube has been broken.**

The quality of this Inhaler is far and away the highest ever shown in this market.

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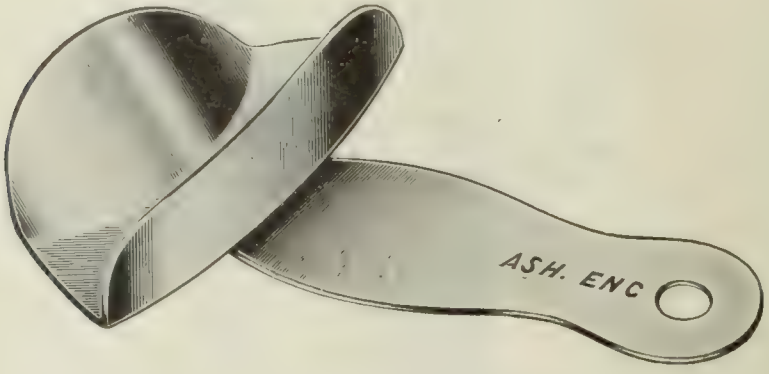
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Ash's Fig. 3 Swivel Tray



This Tray is a superior article to many that are on the market. It is made in our own factory, and is a thoroughly reliable British product, costing you no more than those of inferior quality.

A Good Stock is carried in Toronto, and your wants can be promptly supplied.

Price - - 30 Cents

Claudius Ash, Sons & Co., Limited

Ash's Canadian Quarterly Circular

VOL. V. TORONTO, AUGUST 1, 1915 No. 10

ITEMS OF INTEREST.

Glycerine in the Treatment of Complications following the Use of Arsenic.—Certain complications, says Mr. W. W. James, in the Royal Dental Hospital Reports, may arise from the use of arsenic. The tooth may become tender and remain intractable to treatment; this is, I believe, due to the persistent nature of the drug, for it is certainly relieved by the use of a glycerine dressing; glycerine being a solvent of arsenic. I felt convinced that arsenic persisted for a long time in the tissues, and in a case which would not settle in spite of treatment, and in which I was informed that several arsenic dressings had been applied, I looked up the drugs which dissolved arsenic. Glycerine was among them, and rapidly effected a cure when used as a dressing. It is quite possible my explanation may be wrong, and that a process of diffusion may have aided drainage. Cases of irritation by arsenic are not common, but I should be interested to hear of any cases which react to this treatment. Leakage on to the gum and alveolar margin can be treated by the patient placing pledgets of wool soaked in glycerine between the teeth or in the cavity, the root-canal being plugged only at the opening.—Dental Brief.

How to Determine the Cleanliness of Root-Canals.—It is of utmost importance that root-canals be thoroughly freed of all matter contained in them.

The average dentist will clean out a canal to his satisfaction, and test for smell. But these procedures are very insufficient, and many a time misleading; there is always likely to be a groove in the canal in which is lodged some particle of the decomposed pulp. This is usually very difficult to extract from the canal. But, on the other hand, if we have a method which would ensure the cleanliness of root-canals, we could gradually mummify the remains in the canal through medicinal agents, and in this manner bring about a state of cleanliness. In the following a method of procedure is suggested: To a broach, which may be either barbed or smooth, is attached a pellet of cotton, dipped into hydrogen dioxide solution, and the broach is introduced into the canal, leaving it there for about thirty seconds. The broach is removed with the cotton still on it, and dipped into a receptacle, which must be perfectly clean, also containing hydrogen

dioxide. If bubbles form, the canal is not clean. When the broach with the pellet of cotton containing the H_2O_2 was introduced into the canal, the H_2O_2 immediately dissolved the organic matter, which in turn was taken up by the cotton on the broach. Thus upon placing the broach into the receptacle containing the H_2O_2 a froth is produced. If after several applications the formation of the froth has been eliminated, the canal has reached a state of cleanliness and is ready to be filled with the proper materials.—J. A. Klein, The Acorn.

Paper Cups as Plaster-mixing Bowls.—Sanitary paper cups, instead of being thrown away after they have been once used, can be used as plaster bowls for mixing investments for inlays, etc., then thrown away with their burden of unused waste plaster. —Dental Dispensary Record.

Preserving Pure Mercury.—Mercury is found in nature either pure or in combination with sulphur—cinnabar. Ordinary commercial mercury is generally alloyed with small quantities of lead, tin, etc. For dental purposes, only electrically purified mercury should be used; other brands are never chemically pure, and exert an untoward influence upon the amalgamation of metals and color of amalgam fillings. If preserved in a glass bottle under alcohol, mercury remains permanently pure and bright. If the bottle is reversed, only mercury flows out, the alcohol remaining above the heavier metal.—Der Dental-Markt.

Arresting Hæmorrhage following Extraction.—In post-operative bleeding, a tampon of cotton saturated in a five per cent. solution of iodine in chloroform is introduced into the empty alveolus, inducing prompt arrest of the hæmorrhage.—Dental Surgeon.

Diagnosis of Pulp Hypertrophy.—Chronic hyperplastic pulpitis, commonly referred to as pulp polypus or hypertrophy of the pulp, is caused by the continuous irritation of the parenchymatous structure of the pulp by the rough edges of the perforated pulp chamber. From a pathological point of view, the new-growth should be looked upon as a neoplasm of the granulomatous type. These little tumors, being composed of dense connective tissue, usually spread over the entire cavity; they are principally found in the bicuspids and molars. Hyperplastic pulp tissue is practically free from nerve elements, but rich in blood-vessels. Consequently they do not react painfully on being irritated, but they bleed very freely. Apparently they inconvenience the patient but little. These neoplasms are more or less pedunculated, the stem being rather short. The pulp itself is almost always found in a high state of chronic inflammation, and extremely sensitive to the touch. In diagnosing these new-growths, care should be exercised in not confusing them with

hypertrophic gum tissue, which may have grown into the cavity. From the above description the diagnosis of a chronic hyperplastic pulpitis is a comparatively simple procedure.—H. Prinz, Dental Summary.

Technique of Making Pattern for Cast Gold Inlay.—The place where failures in inlays occur most frequently is at the gingival margin. This is a hidden part of the cavity, and is very easily overlooked. The wax pattern should be removed immediately after the first pressure, to examine the adaptation. Should the impression of the gingival margin of the cavity be faint or imperfect, a softer wax, such as Solbrig's plate wax, should be melted on at such point, and another pressure made. A perfect impression of the gingival margin is absolutely essential, and there is no need of continuing the work beyond this point unless this has been obtained. Cavities must be prepared so that the wax will be forced upon the gingival wall with an equal pressure to that made upon the other parts of the cavity. The patient should be requested to bite upon the wax to give the proper occlusion, and the wax trimmed and burnished to the desired contour. A silk ligature passed between the contact point and along the gingival margin helps in trimming off the surplus, and also aids in removing the pattern by cutting away a small portion of the contact point.—E. D. Coolidge, Western Dental Journal.

Rubber Preservative.—Articles of rubber, including rubber tubing, can be preserved from becoming hard by coating them with a mixture of gelatine 70 parts, glycerine 20 parts, barium sulphate 10 parts. The mixture is applied hot, and upon cooling forms a film which does not harden or crack. By preserving the surface from direct contact with the air, this coating keeps the elasticity of the rubber from deterioration.—Edwards' Dental Quarterly.

Method of Reinforcing Plaster Casts.—Many times we find that when our models are made they are very thin—too thin and weak to withstand the pressure necessary in closing the flask. We also find abutments breaking off the model in bridge work, etc. An easy, cheap and sure method to overcome this difficulty is to get some brass wire gauze, to be found at all tin shops—this gauze is used for milk-strainers, etc. For reinforcing crowns used as abutments in bridge work, a piece about one-half inch long and one-half of the size of a lead pencil is rolled up, and after dipping it into water it is gently worked into the crown, when pouring the investment in to get the model. If a lower impression has a very thin ridge, and the operator is ready to make the model, a piece of the gauze is cut, about two inches wide and long enough to go from one end of the model to the other. Then the gauze is folded in the middle and as the plaster

is being poured into the impression the smooth edge of the gauze, not the cut edge, is worked into the plaster, holding it for a moment until the plaster begins to set.—J. M. Prime, Dental Brief.

Selection of Posts in Crown Work.—Nearly every failure in post crowns is due to dowel pins too small both in diameter and length, usually the former. Many operators seem to think if they can get the pin to the apex of the tooth, the diameter is immaterial. Consequently we find many posts resembling hatpins in proportions.

The requirements of a good post are rigidity sufficient to withstand all strain and squareness of shape. Pure platinum should never be used; iridio-platinum answers all purposes.

Logan crowns demonstrate the failure of pure platinum by the many open joints we encounter in everyday practice.

If the pin is not ductile under the force of mastication, and has sufficient roughness to keep it from being pulled out of the cement, either in the root or porcelain, and is rigid enough so it cannot be bent, there can be no possible opening of the joint. This I want to emphasize as the most important factor in crown construction.—S. M. Weaver, Dental Summary.

Ascertaining Correct Occlusion in Plate Work.—More failures in plate work are due to faulty occlusion than to any other cause. There may be perfect fit, good adhesion, æsthetic appearance, but when the jaws close there is trouble. Too much pains cannot be taken when adjusting the teeth in the mouth to see that the occlusion is correct.

The anterior teeth must never come in contact, for two reasons: It causes displacement of the upper denture, sooner or later; and the pressure upon the anterior margin of the gums causes absorption of bone, leaving the flexible ridge so often seen.

The best way to secure correct occlusion of the posterior teeth is the use of thick articulating paper, a strip being placed between the jaws upon each side, and the patient being told to bite rapidly and hard, for then he will bite correctly, and it will at once be seen where the closure is too hard, by the very black spot.—L. P. Haskell, Dental Summary.

A Quick and Efficient Method of Adding One or More Teeth to a Vulcanite Plate.—While the patient is in the chair, a retention is drilled in the vulcanite, a suitable tooth selected, some wax pressed into the retention, and the tooth placed roughly into position. The wax is then warmed and the plate placed into the mouth. While the wax is still soft, the tooth is pressed into position. The whole is syringed with cold water, removed carefully, invested in the usual way, and vulcanized. By this method one saves time, obtains a correct occlusion, and is sure of a good fit.—E. K. Satchell, Commonwealth Dental Review.

Ash's Popular Broaches

Coarse
Medium
Fine
Extra Fine
XX Fine
XXX Fine
Assorted

Per Gross - $4 00

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HAVE YOU NOT YET TRIED

Nielsen Separating Plaster?

Made in Copenhagen

Small Tin	-	$1 50
Large Tin	-	2 50

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Of Interest to Every Dentist

Operating Instruments (Steel Goods) of reputable manufacture with the exception of our own make were recently increased in price to the dentist some 25 per cent.

Ash's Operative Instruments were not advanced and it will pay you to compare the prices in the list below, with those of any other make of repute.

Ash's Instruments have never been excelled and very seldom equalled. All are made by British Workmen, who to-day claim the undivided support of all British subjects.

C. S Excavators	12c each	L. H. Excavators	21c each
" D. P. Excavators	15c "	" D P. Excavators	25c "
" Chisels	35c "	" Blacks "	35c "
" Scalers	35c "	" Chisels	50c "
" Burnishers	35c "	" Scalers	50c "
" D. Head Burnishers	45c "	" Burnishers	50c "
" Explorers	12c "	" D. Head Burnishers	60c "
D. End Plastic Rests	60c "	" Explorers	21c "
" Explorers	50c "	Peeso or Ottolengui Reamers	40c "
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10 per cent. Discount

will be allowed when one dozen of these instruments are purchased at any one time. The quantity may be made up of an assortment.

Claudius Ash, Sons & Co., Limited

Ash's Portable Folding Dental Chair

When folded it occupies a space of 42 inches long by 21 inches wide by 7 inches deep, and weighs 42 lbs. Height of seat 20 inches, Depth, 17½ Range of Head Rest from seat 24½ inches to 31½ inches.



This chair is remarkably rigid, the front is strengthened with four brass bars to take the locking bar and foot rest.

The Head rest is covered with washable pegamoid and is without seams.

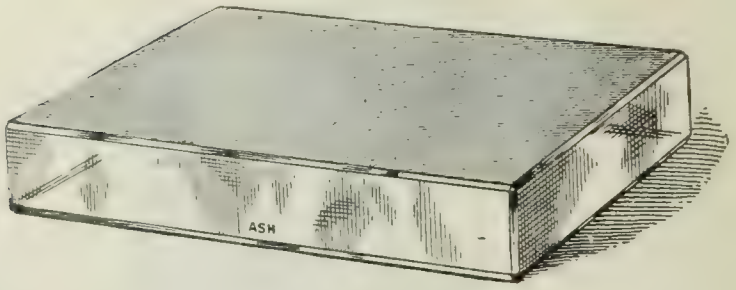
The Back and Seat are covered with linoleum and fitted flush with the frame. Further the seat is inlaid with two strips of India rubber to prevent the patient slipping forward. The Back has a large range, and can be adjusted from the vertical to the horizontal in five different positions.

Chair and Foot Rest in Solid Framed Oak $25.00

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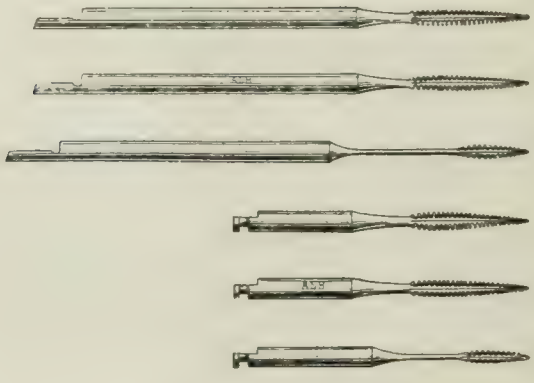
WITH ONE GROUND SURFACE.



Size 4⅛ by 2⅝ by ⅞ inches.

Price ....each $ 50

GOODHUGH ROOT BURS



A new Cross-cut Root Bur, ideal in shape and of Ash Quality. For either No. 7 Hand Piece or No. 2 Right Angle.

Price, each. .... $ 25



1

Lancets for Abscesses, Etc.

Figs 1 and 2. For opening abscesses, trimming and smoothing filings, etc.

In Steel handles, nickel-plated

each 40c.

Other Lancets made or obtained to order.



2

Mouth Mirrors



Since advertising our CONE SOCKET MIRRORS 25 cents each in previous issues, we have sold many thousands of them.

We want to attract your attention also to our

Metal Handle Mirrors

30 CENTS EACH.

We have a fine stock of these and can supply them either PLAIN or MAGNIFYING in the various sizes.

A request Postal will promptly bring one to you.

Claudius Ash, Sons & Co., Limited

Ash's First Quality Mirrors



Ash's Mirrors, Fig 54 C have for years been the

WORLD'S STANDARD

The lenses used in these instruments are the best possible and they are mounted on the best of handles.

LARGE—SMALL—MEDIUM

Plain and Magnifying

70 Cents

The Mosley Angle Holder

A New Instrument—One That YOU Need

This Angle Holder is equipped with five different instrument points that have been selected as the most useful for operations in the more inaccesible cavities.

Chisel, Burnisher, Approximal Blade Broach Holder and Orthodontia Wrench

The holder is a positive locking device allowing the different instruments to be held at various angles and twists. The principle involved is a great advance over the old ball and socket fixture and ensures rigidness of the point.



The attachment for holding broaches and cleansers is the most positive of all holders, and allows of any length broach being used. Cut off the broach to the required length, being sure that enough of the shaft remains after it has been inserted in the attachment to engage with inside bottom of the screw socket. To remove, simply force the broach backwards through the attachment.

For Further Description see Opposite Page

The Chisel will be found most useful in operations on all posterior teeth, and is invaluable in preparing cavities for inlays in the distal surfaces of the bicuspid and molar region, heretofore inaccessible except with a burring instrument.

The thin approximal blade will commend itself to all practitioners for shaping up the wax form in the cavity and as an assistant in removing it, as well as being useful for burnishing plastic fillings.

The double-headed burnisher and approximal instrument is almost indispensible for all plastic operations.

The Orthodontia Wrench will be found invaluable to all those who practice the regulation of teeth. It allows the operator to adjust the regulating nuts, no matter at what angle they may be at.



In neat Cardboard Box, $3.75 complete

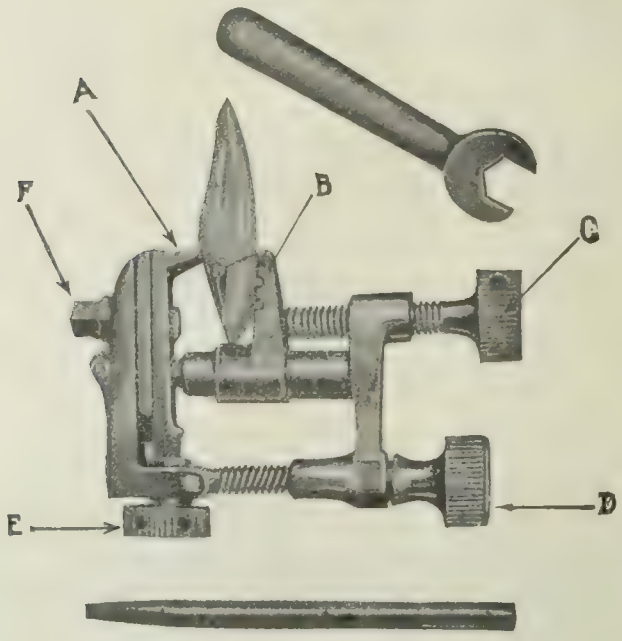
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Mosley Crown Remover

An Ideal Appliance for Removing Crowns from Roots.

REGISTERED



NATURAL SIZE

The Mosley Crown Remover was the first instrument devised for removing Dowel Crowns from the mouth. Its primary object is to remove these crowns without in any way injuring the roots. This is accomplished quickly and painlessly. In most cases the crowns remain uninjured and can be used again if desirable.

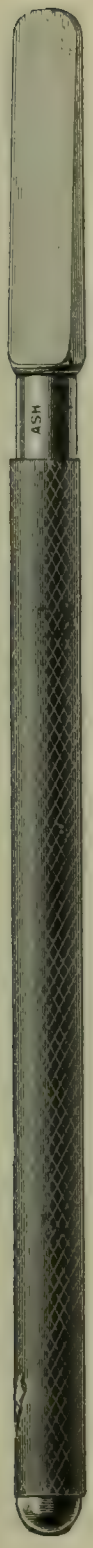
A slight turn to the right of Thumb Screw E removes the Crown, one Wedge Tongue pulling the Crown downwards, the remaining two supporting the root.

A. Wedge Tongues 3	D. Thumb Screw
B. Vice Jaw	E. Thumb Screw
C. Thumb Screw	F. Jam Nut

Complete directions with each Remover.

PRICE . - $5.50

Claudius Ash, Sons, & Co., Limited



You Need a New Agate Spatula

The Agate Spatula is the most important aid to successful manipulation of all Silicate Cements.

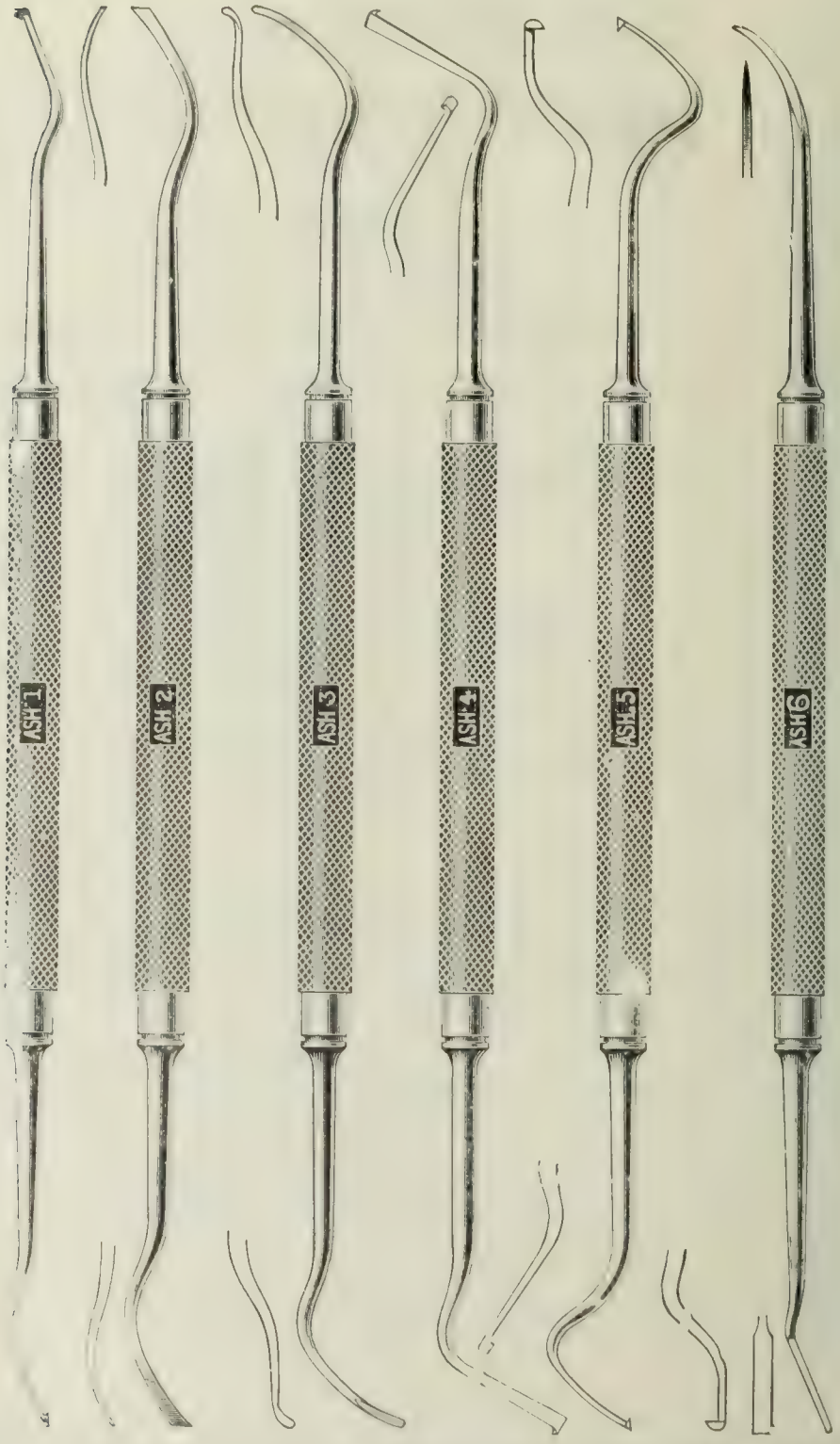
Ash's Agate Instruments were the first on the market, and have always been the best.

Double End Agate Plastic Instrument - -	**$1.10**
Single End Agate Spatula -	**.75**
Double End Agate Spatula with Double Head Burnisher -	**1.50**

Claudius Ash, Sons & Co., Limited

GLOBE PYORRHOEA SCALERS

SET OF SIX DOUBLE ENDED



In Knurled Handles, Nickel-plated, each 50c. Per set $2.50.

Beutelrock and Gates' Glidden Drills

WE desire to draw your attention to these articles as being those in which quality of material and manufacture count for so much. Many Beutelrock and Gates' Drills are so in name only and are not worth a place in your office.

We have always used the best material obtainable, and as the work to be accomplished with them is so delicate and important, we make them to the highest standard. The price is attractive also.

For either Hand Piece or Right Angle, 35 cents each
Per Dozen - $3.36

Claudius Ash, Sons & Co., Limited

Hampel's Amalgam Carrier



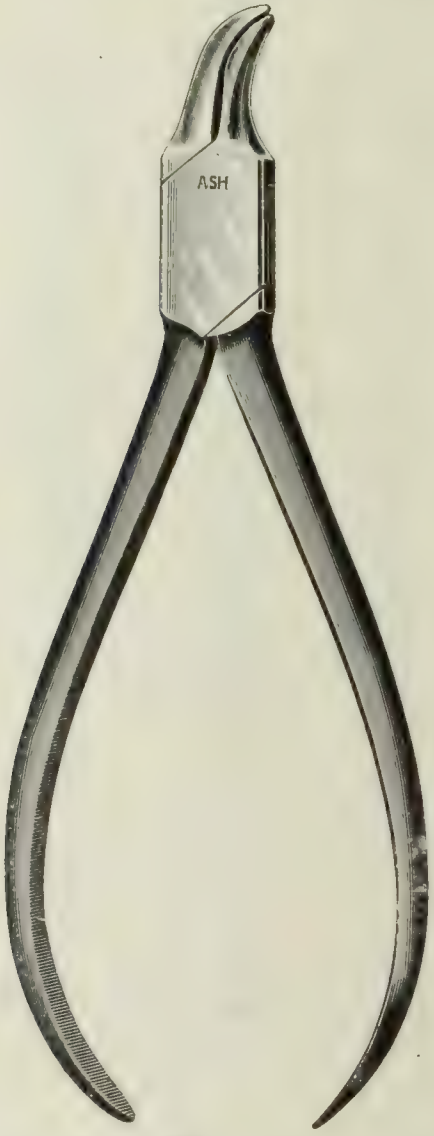
This is a most useful instrument for carrying Amalgam to and discharging it in the cavity.

To take up the Amalgam it is only necessary to press the tubular end of the carrier into it a few times until the tube is filled.

The Amalgam is discharged by taking part B between the first and second fingers and pressing with the thumb on the end.

Price.....$1.40

Ash's Crescent Contouring Pliers



4¾ in.

Crescent Contour Plier $1.25

A ROAD TO SUCCESS

WITH TEETH BACKINGS AND SOLDERING IN PLATE WORK

Avoid breaking Teeth or fracturing Pins by using

I. Young's Peforators

The late Mr. . Booth Pearsall, in his Book on *Mechanical Practice in Dentistry*, says that "the best tool for punching the metal backs for teeth is the one invented and patented by Mr. J. C. Young, of Warrington, which punches two holes at a time. I have used it for several years, and no mishap to the tool itself, to the pins, or to the teeth has ever happened."

II. Ash's Crown Swager

In which backings can be swaged quite flat against the teeth without risk of injuring either the mineral (porcelain) or the pins.

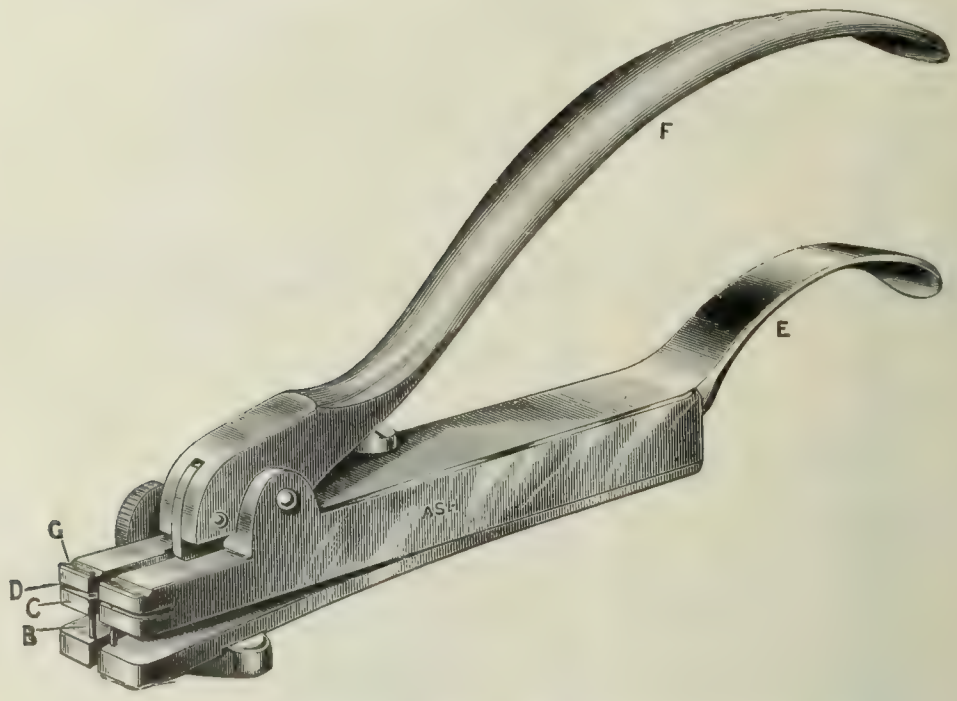
III. Suitable Solder

Of reliable quality and of as high a grade as our No. 18 Solder.

The three aids will very rarely, if ever fail you.

Young's Adjustable Peforators

FOR PUNCHING TWO HOLES AT ONCE.



A—Screw which holds the back plate that clamps the pins.
B—Pins.
C—Intermediate Plate with holes that supports and stiffens the pins.
D—Slotted recess into which the metal backing is placed.
E—Lower Level.
F—Upper Level.
G—Groove in upper plate with holes into which the tooth to be backed before punching the backing.

Mr. Young claims that his tool secures, rapidly and with mathematical precision, exact correspondence between the holes in the metal plate used for backing teeth, and the pins of the tooth to be backed. It provides also for the quick and easy disengagement of the plate from the perforating pins after punching. The difficulty of separating, without twisting or injuring the perforated plate (the greatest obstacle to punching two holes at once), is entirely removed.

The risk of fracture in backing teeth is reduced to a minimum.

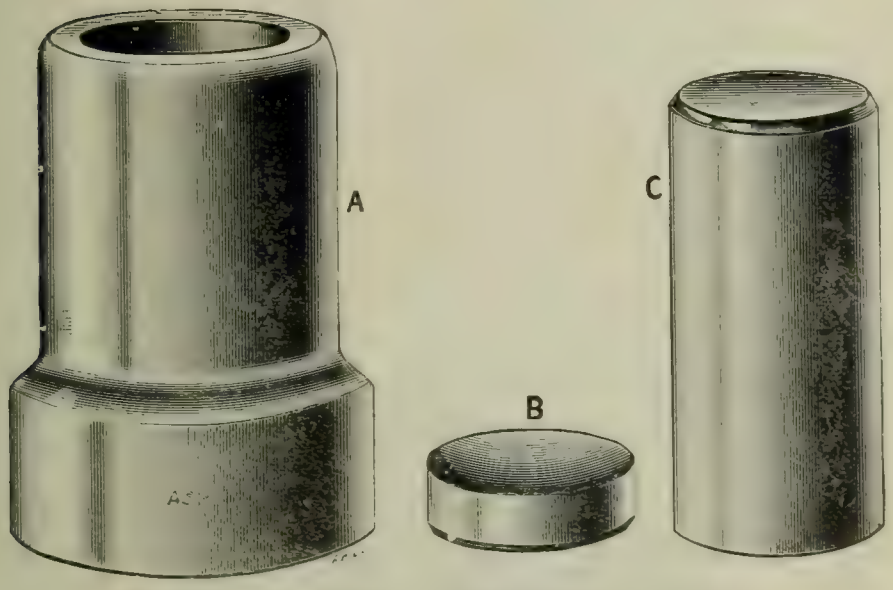
No measuring is required. The tooth is its own gauge, virtually punching its own holes.

Price, with Set Screw..... $4.50

ASH'S SMALL SWAGER

(Registered. Reg. No. 334,144.)

For Swaging Crowns of Fine or 22-Carat Gold of any thickness up to Ash's size No. 5, and for Swaging Teeth Backings.



A—Body of Swager ; **B** - Bed Plate ; **C** Plunger.

There is no limit to the number of dies which can be made for use in this little swager; any natural or artificial bicuspid or molar can be employed, and very easily and quickly mounted in composition ready for the gold crown to be swaged upon it.

The swager possesses this further advantage, viz.: Existing Crown Dies—Melotte's and other dies of similar form—can be used in it.

When such dies are used, it is desirable to surround them with Extra-hard Swaging Composition, to make them of about the right diameter for the well of the swager and to form a bed for the sides of the rubber block, which might otherwise be cut when it is squeezed down to force the metal on to the die.

Ash's Small Swager—*continued*

Directions for Use.

Put a small piece of swaging composition into boiling water, and when it is softened mould it into shape on the bed-plate, which should be previously warmed over a Bunsen or spirit flame; set an artificial tooth, or the crown of a natural tooth, in the composition, the size and shape of the required gold crown, and cool under the water-tap. Then lay the piece of gold which is to serve for the crown upon the tooth, place it and the bed-plate **B** in the swager, insert the rubber block and plunger **C**, and swage in a press or vise.

By taking an impression of the antagonizing teeth in ordinary impression composition, and making a reverse of same in swaging composition or fusible metal, the gold crown can be swaged upon the reverse, and correct articulation thus obtained.

The swager is also most useful for swaging backings on teeth if used in the following manner:—

After the backing has been pierced and the holes have been countersunk, place the bed-plate flat side upwards in the body of the swager, lay the tooth face downwards with backing on it on the flat rubber block, place the flat surface of the coned rubber block over it, and apply pressure either in a press with revolving pressure plate or in a parallel vise.

The swager is also useful for many other purposes which will suggest themselves to the user.

Crown Swager, with 2 Rubber Blocks.....complete $2 25
Additional Bed-plates **B** .....each 15
Ash's Swaging Composition, in ½-lb. boxes....per lb. 1 50

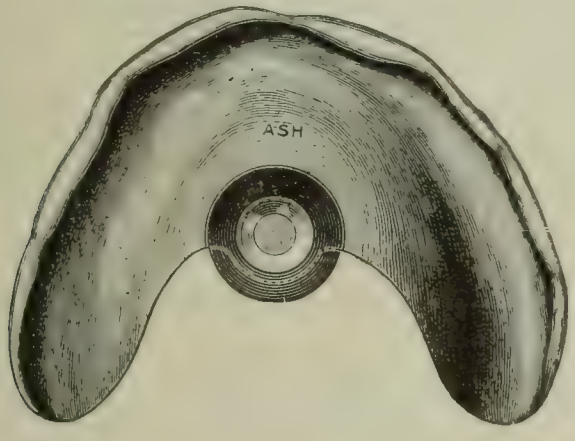
Rauhe's Improved Suction Disc for Vulcanite Dentures

MADE IN GREAT BRITAIN

PATENTED IN ENGLAND, GERMANY, FRANCE, AUSTRIA-HUNGARY, BELGIUM, THE UNITED STATES, ETC.

Rauhe's Suction Disc has been specially designed to prevent injury to the palate. It does not draw down the tissues and produce soreness in the mouth. In this respect it is greatly superior to all existing Suction Discs.

There are no parts about it which can be lost or misplaced, such as bolts or screws, etc.



It is easily kept clean, owing to the fact that the rubber disc can be removed and replaced in a few seconds, without the use of a tool of any kind.

The anchorage of the rubber disc is so simple that the patient can renew the disc when necessary.

The suction power of the disc is sufficient to hold a denture quite firmly and securely in position.

It is unnecessary to add clasps to partial sets which are fitted with Rauhe's Suction Disc.

RAUHE'S SUCTION DISC

(continued)

Directions for use are supplied with each Disc

		$	c
Raube's Suction Discs for Vulcanite Work :			
Gold Stud with 3 India-Rubber Discs -	each	1	00
	per doz.	10	50
Alluminum-Alloy Stud - - - -	each		50
	per doz.	5	00

Reduction in Price :

Extra India-Rubber Discs, sizes Nos. 12, 14, 16, 18 - -	per doz.	30

RAUHE'S SUCTION DISCS

(PATENTED)

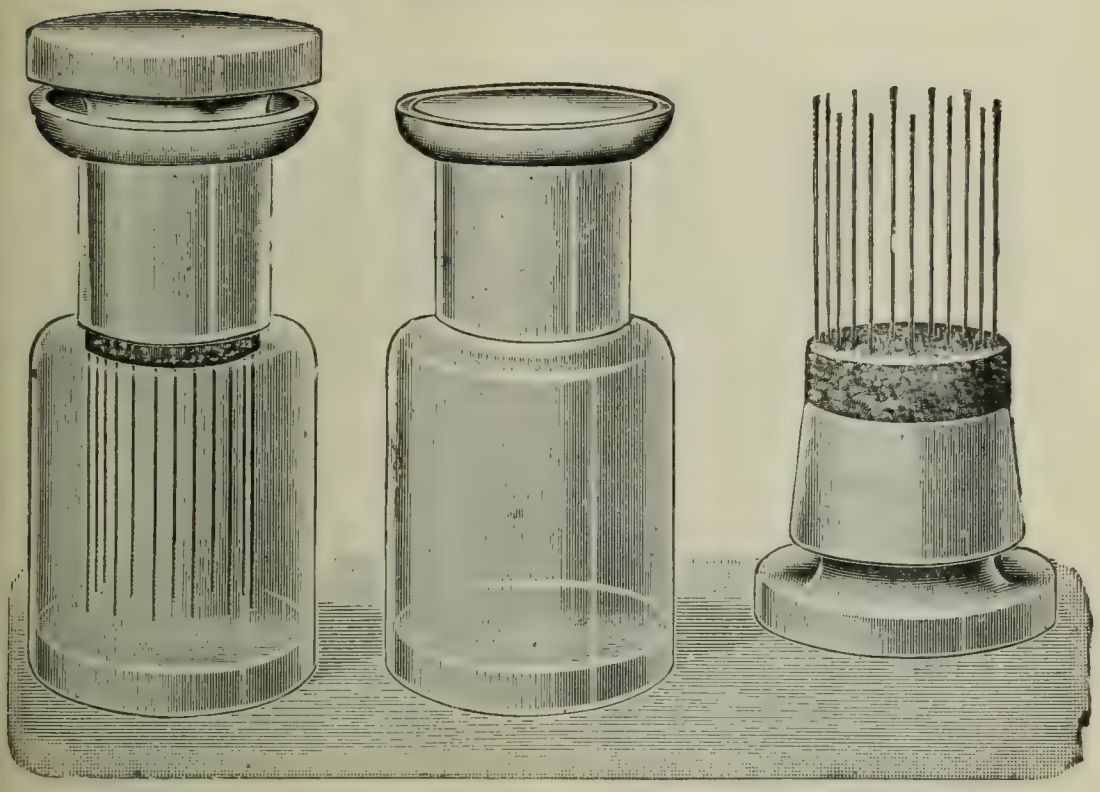
Under License granted by THE COMPTROLLER of the Patent Office

We are now manufacturing all forms
RAUGHE'S SUCTION DISCS
At our Walton-on-Thames Factory.

BEWARE OF SPURIOUS IMITATIONS.

Claudius Ash, Sons & Co., Limited

Bottles for Holding Nerve Instruments



These three illustrations show the advantages of the Bottles and the method of employing them.

By the use of these bottles the points of the nerve instruments are protected from all risk of injury; moreover, they remain aseptic in the first bottle, if it is charged with Lysol, Lysoform, Hay's Kersol, Black's Creosantis, or any other non-corrosive antiseptic fluid.

The antiseptic fluid on each instrument is neutralized by immersing it, immediately before use, in the second bottle, which should contain alcohol.

The flat stopper of the bottle, when laid upon the bracket table or the instrument board, keeps the nerve instruments within easy reach of the operator, and renders them convenient to handle.

Set of two Bottles in cardboard case..... 80c

PLIERS FOR WORKROOM

Fig. 9.

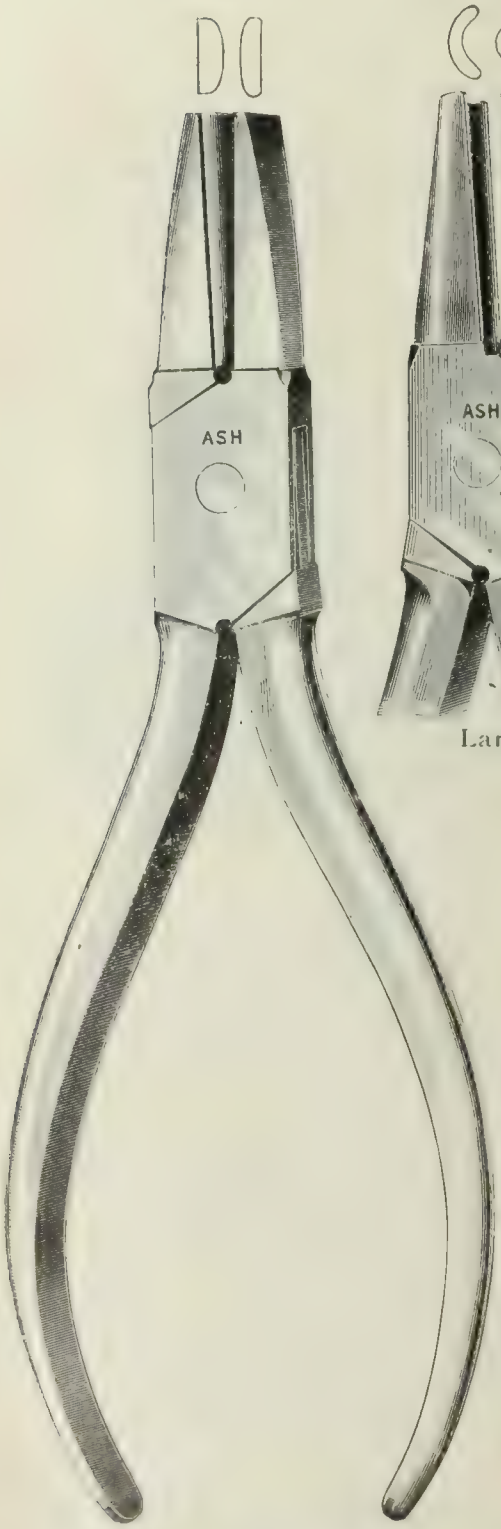


Fig. 10

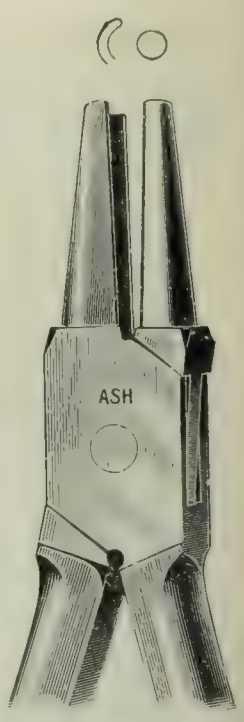
Large

Fig. 11.



Medium

Fig. 12.



Small

With Flat and Half-Oval Chops, 6 in. long (Fig. 9) each ..... $ 50

With Round and Hollow Chops, large, 5½ in. long (Fig. 10) .....each 70

Medium, 5½ in. long (Fig. 11) .....each 70

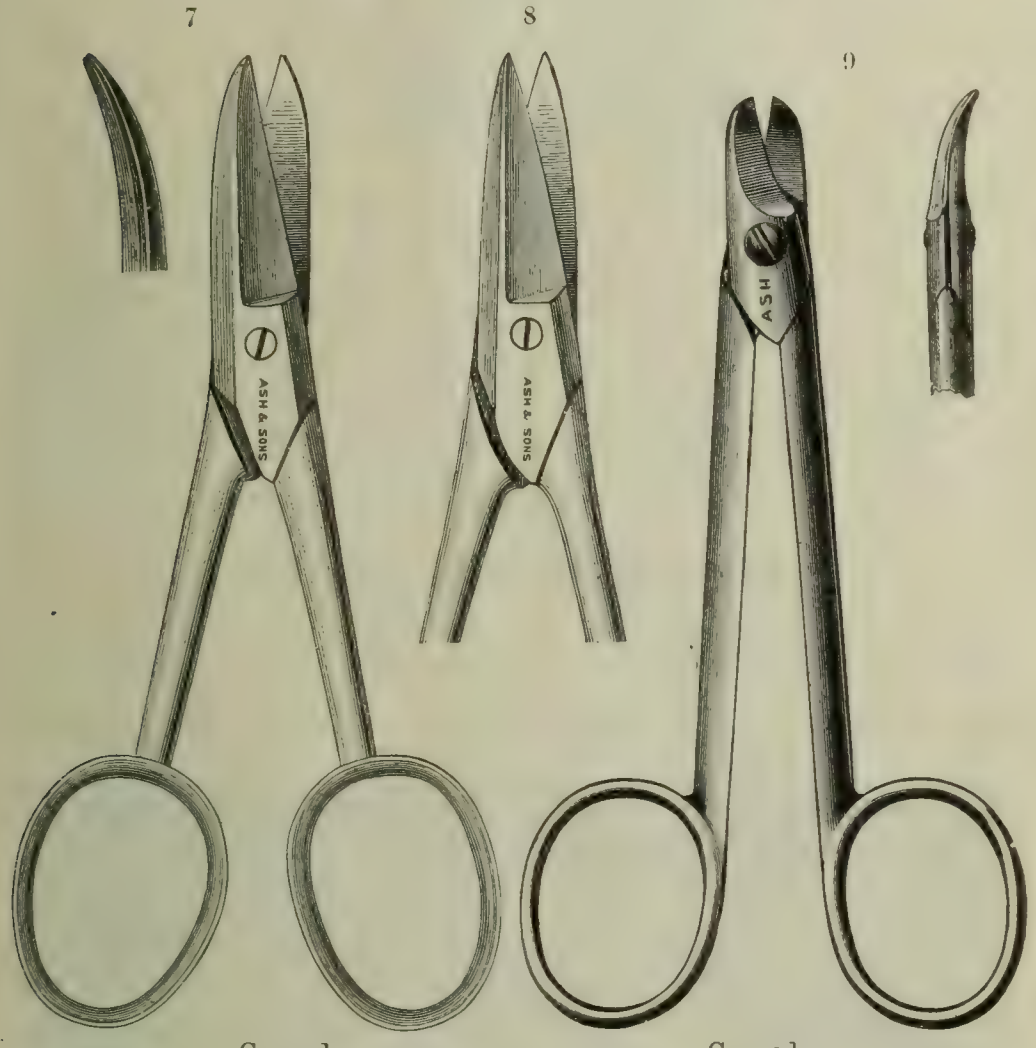
Small, 5½ in. long (Fig. 12) .....each 70

Improved Plate Scissors

(Mr. Girdwood's)

Crown and Collar Scissors

(Dr. J. H. Beebee's)



Curved Curved

Full size.

Specially adapted for the use of Crown and Bridge Workers.

Improved Plate Scissors (Mr. Girdwood's).—These Scissors are more easily handled than small shears, and allow of sharp curves and angles to be readily cut, and Mr. Girdwood finds them strong enough for crown gold, etc.

Fig. 7. Curved Scissors, Nickel-plated.....each $1.25
Fig. 8. Straight Scissors, Nickel-plated.....each .80

Crown and Collar Scissors (Dr. J. H. Beebee's).—Most useful for cutting and trimming gold collars and crowns.

Fig. 9. Curved Scissors, Nickel-plated.....each $1.10

PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice, Windsor, Ont. Apply Ash & Sons

FOR SALE—Dental Practice, St. Stephen, N.B. Apply Ash & Sons

FOR SALE—Dental Practice, Langham, Sask. Apply Ash & Sons

GRADUATE ASSISTANT WANTED—New Brunswick. Must be Experienced. Apply Ash & Sons.

GRADUATE ASSISTANT WANTED—Ontario. Apply Ash & Sons.

WANTED—Position as Dental Mechanic by lady with four years experience. Best of references furnished. Apply Ash & Sons

WANTED—Position in a Good Dental Laboratory by a Graduate, who has also taken Post Graduate Course in Crown and Bridge Work. 20 Years' experience. Apply Ash & Sons.

SECOND-HAND GOODS

1 S.S.W. Pattern Chair, Leg Base - - - - - - $30

1 Special Golden Oak Cabinet with Mirror and Medicine Top, practically new - - - - - - - - - 60

1 Davis Gasometer, less Face Piece and Tubing, excellent condition - - - - - - - - - - - 18

1 Davis Gasometer
1 Mills Centrifugal Casting Outfit } - - - - - - 25
1 Olivian Swager

1 Large G. O. Cabinet. A-1 condition. A bargain - - 60

1 Ritter Overhead All Cord Engine, 110 V., D.C. - - 75

1 Ritter Overhead All Cord Engine, 110 V., D.C. with H.P. and R.A. - - - - - - - - - - - 75

1 Clark Cabinet
1 Case Chair } - - - - - - - - - - 30

1 Electro Dental Water Glass Heater - - - - - 6

2 Ritter Battery Engines. New. Will sell cheap.

1 Second-hand Ritter Caustic Potash Battery Engine. New 150

1 Second-hand Ritter Storage Battery, Engine and Lathe, cost of operating has not exceeded 50c. per month. In A1 condition. An offer is requested.

Claudius Ash, Sons & Co., Limited

MADE IN CANADA



Pounding in Gold Foil Fillings Is a thing of the Past

¶ Nowadays the majority of Dentists all over the world use

WILLIAMS MAT GOLD

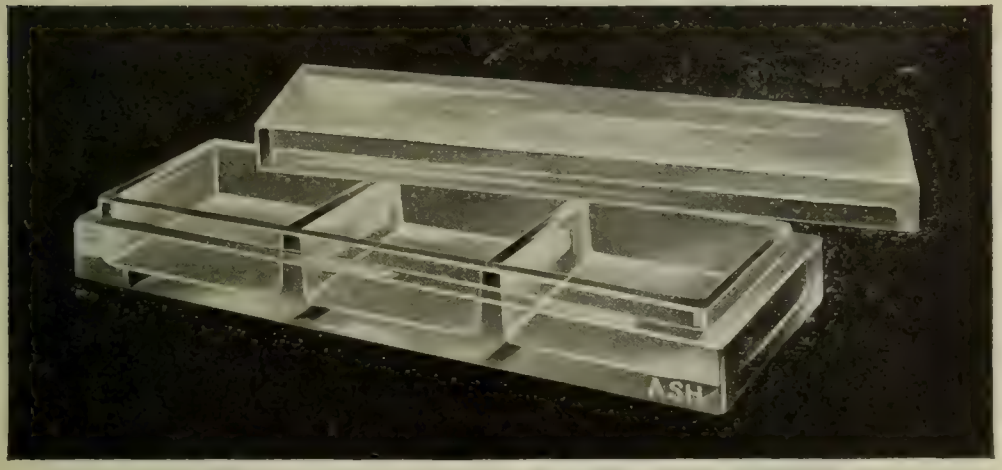
Because it enables them to make

Perfect fillings in half the time

Ask any one of the Thousands of Dentists who are using it

All Dealers or
The Williams Gold Refining Co.
Bridgeburg, - - Ont.

GLASS BOX—With Three Compartments



Outside Dimensions: Length, 4⅜ inches; Width, 1⅝ inches; Depth, ⅝ inch.

This Glass Box with three compartments will be found most useful for holding Paper Points, Gutta Percha Points, Pulp Caps, Mediciments, &c. Made to fit the drawer of all our Bracket Tables.

Each - - - - 60 Cents.

CLAUDIUS ASH, SONS & CO., Limited



BEWARE OF IMITATIONS

No More Dread of the Dental Chair

50/50 DESENSITIZING PASTE

[WILLIAMS]

With this paste you can excavate or drill the most sensitive cavity without the slightest pain. You can work for those very sensitive patients that cause so much trouble and nervous strain to the dentist.

50/50 Desensitizing Paste **absolutely eliminates all pain in cavity preparation.** It contains no Arsenic, Cocaine, Morphine, or any derivative of them.

Price, $2.60 Per Jar in Canada

Complete directions with each package.

This is sold with absolute guarantee.

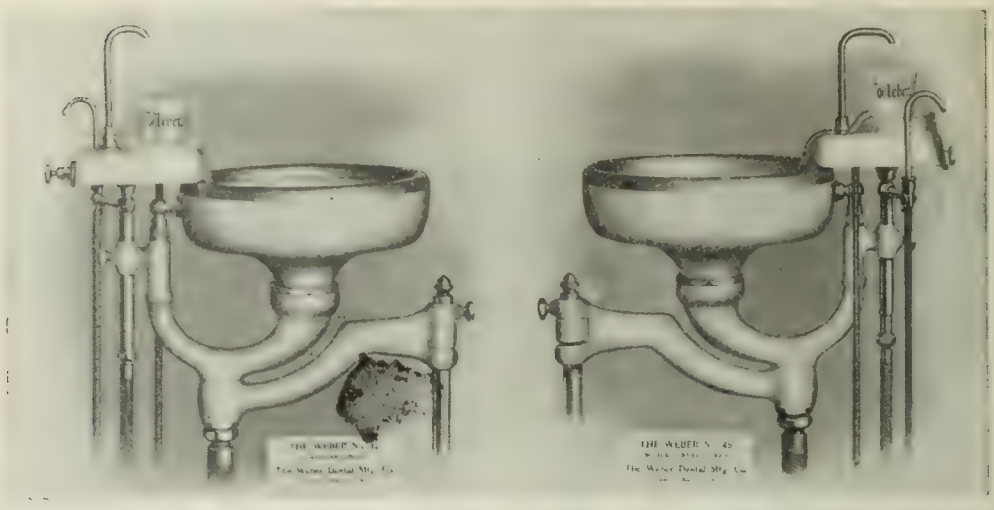
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King's Specialty Company

Fort Wayne, Ind., U. S. A.

SOLD BY ALL REPUTABLE DEALERS EVERYWHERE



No. 42 No. 45

The Most Beautiful and Substantial Cuspidor Made

Recent New Features Patented:

GLASS VALVE SHIELD
POSITIVE GOLD TRAP
UNLEAKABLE SALIVA EJECTOR
NEW SALIVA EJECTOR HOLDER

WEBER Cuspidors are GUARANTEED to please or money refunded.

The Weber Dental Mfg. Co.

CANTON, OHIO

Write for our New 1915 Catalogue and Terms of Exchange Proposition

Specialists in removable and semi-removable bridge work.

Griswold, Morgan, Roach Bennett Bar, Fossume-semi-removable and Gilmore attachments

Porcelain bridge work.

Continuous Gum Work.

All classes of Tube tooth work.

Ash's Swaged Vulcanite Dentures, Bar Lowers, etc.

Chas. L. Daly

X. L. C. R. Dental Laboratory

ROOMS, 1, 2, 3, 4 & 5,
11 GRENVILLE STREET
—— TORONTO ——

"Your impression **OF** me will largely depend upon your impression **TO** me."—*C. L. Daly.*

"Send good Plaster Impressions and correct wax bite and leave the rest to me."—*C. L. Daly*



The above cut illustrates the Dimelow Detachable Facings at **$2.75** per Tooth, all porcelain posteriors

PARTIAL PRICE LIST FOR LABORATORY WORK:

Gold Crowns : Cen. Lat. Cus. and Bic. - - - $2.00
Molars - - $2 25 to $2.50

Bridgework : Anteriors per tooth $2.00
Bicuspids - - - - $2.50
Molars - - - $3.00 to $3.50
Richmonds, extra - - $ .25

Facings charged extra at market price.

Steeles and Dimelow interchangeable Facing and Porcelain
Cusp. posteriors, per tooth $2.75
Richmonds, extra - - .25
Gold Cusps. on posteriors extra .50
Facings included in above prices

Goslee and Dowel Bridgework per tooth - - - 3.00
Teeth extra

Gold Inlays
(Send wax impression packed in tissue paper)
Casting only - - - .75
Gold - - - - .05 per gr.

Rubber Dentures—
Plate Work, $2.50 to $3.00
(Partials $2 00)
Swaging metal plates (swaging only) Aluminium - - $3.00
Gold - - - $5.00

Casting Aluminium plates (cast only) - - - $4.00
Gold Plates - - - - $6.00

All teeth charged extra at market price

Send impressions (unpoured) plaster preferred, for all classes of work including metal work.

SEND A TRIAL ORDER. **SATISFACTION GUARANTEED**

When you write, give full particulars of case and when wanted.
You will not be disappointed.

CHARLES L. DALY

Caulk's Utility Package

MEETS ALL DEMANDS FOR EFFICIENLY AND ECONOMY



For setting Crowns, Caps, Inlays, Facings and Bridges.

For FILLINGS, with COPR-ZINC to be added when Copper is indicated.

$4.50

It contains a Cement which has been more widely used and approved than any other Zinc Cement made.

Its price in proportion to quantity of material is as low as that of any Cement with any reputation.

Its shades are chosen so that singly or in combination, practically any desired shade may be obtained.

Send for our 1915 Catalogue

THE L. D. CAULK COMPANY

Laboratories: Milford, Delaware, U.S.A.

Canadian Branch—70 Bond Street, Toronto, Ont.

SYNTHETIC

("SYNTREX")

is made in our own Laboratories at Milford, Delaware,---from the ground up.

We are dependent upon no other country and no other Laboratory but our own.

We manufacture all the filling materials we sell. That's why we can always supply them, why we know their precise nature and why our guarantee means something.

Every claim we make for Synthetic has been established by our scientific department and our clinical department.

Free for the asking:

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THE L. D. CAULK COMPANY

Laboratories: Milford, Delaware, U.S.A.

Canadian Branch—70 Bond Street, Toronto, Ont.

A Solid Foundation

is necessary to an enduring structure The continued, unvarying success of the

Dentinol and Pyorrhocide Method

of treatment in pyorrhea for more than eight years is based upon the definite, uniform action of DENTINOL in reducing the inflammation that signals the beginning and marks the progress of the disease.

Untried Claims & Fanciful Theories

can neither expect nor deserve recognition in dentistry. The progressive practitioner who values his reputation and regards the best interests of his patients will follow the procedure that has been conclusively demonstrated as practical and effective—that has stood the test of time—that produces results.

Upon request we will send prepaid reports of laboratory tests, scientifically detailing the action of DENTINOL on micro-organisms (bacteria and amobae) present in pyorrhea and and other pathogenic oral conditions.

The Dentinol & Pyorrhocide Co.

World's Tower Building

110-112 West 40th Street **New York**

N.B.—If desired we will include a copy of "The Practical Method of Successfully Treating Pyorrhea," which presents in concise form the technique employed.

JUSTI

True-to-Nature Molds

Embody the Only New and Valuable Features, Introduced in the Designing of Porcelain Teeth for Vulcanite Dentures Since 1862

"Teeth that OCCLUDE and ARTICULATE CORRECTLY"

INSIST THAT YOUR DEALER SHOW YOU THESE MOLDS

H. D. JUSTI & SON

Philadelphia Chicago

A MASTERPIECE



NEW CLARK 75 DOUBLE

INDESTRUCTIBLE—CUTS DOWN THE UPKEEP.

A Blend of Mechanical Perfection and Artistic Charm.

A NEW DEPARTURE.

Main Features—Indestructibility—Elimination of Nickle—Obscurity of Valves—Noiselessness—Low Upkeep—Bubbling Cup—Beauty and Hygiene of Appointments.

We have scores of expressions like the following:

Dr. F. E. Roach—Chicago, said: "That's Great. It's the biggest advance since the inception of Fountain Spittoons. Every feature is just as it should be. I'm not very fussy about equipment, but this appeals to me. Send me the first one you finish up."

Dr. Geo. W. Pitts—Chicago, said: "I just installed two of your latest models last summer, but I'm going to throw them out as soon as you can get two of these new ones to me. The Metal Bowls, Bubbling Cup, Artistic lines and General Appointments are superb."

Send for our New Catalog in Colors, full of Spittoon Surprises

A. C. CLARK & CO., Grand Crossing, Chicago, Ill.

ASH'S FORCEPS



We manufacture American as well as British patterns, but all are British quality and hand made—not drop forged. Patterns No. 18 Right and 18 Left as illustrated, are especially valuable.

PRICE - - $2.50 PER PAIR

Ash's Extracting Forceps
No. 76 S



This is the best known and most used Forcep in Canada and is especially recommended by the teaching faculty of the R. C. D. S.

PRICE $2.50

Claudius Ash, Sons & Co., Ltd.

VOL. 5 No. 11

ASH'S CANADIAN QUARTERLY

ISSUED FROM TORONTO, MAY. AUG. NOV. FEB.

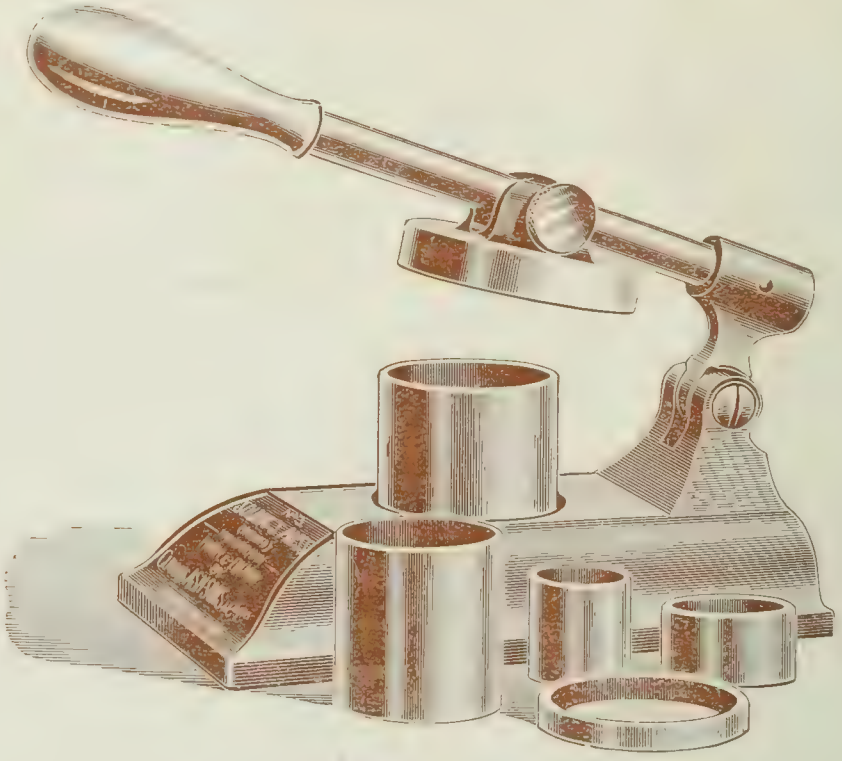
CLAUDIUS ASH, SONS & CO. LIMITED.
CANADIAN BRANCH,
11-13 GRENVILLE ST. TORONTO, CANADA.
MAIN DEPOT LONDON, W. ENGLAND.



SOLBRIG'S No. 3 PRESS

(Patented).

For Casting of Gold and other Metals. Inlays, Crowns, Bridges, Backings, etc.



No. 2 Press and accessories consists of:—

Press,
2 Cylinders, Nos. 4 and 5,
2 Hollowing Cones,
1 box Asbestos Discs,
1 box containing—
    12 Sprue Wires.
    12 Rubber Bands,
    12 Sticks Wax,
1 Bunsen Burner,
1 Support for Holding Cylinders over the Bunsen,
1 pair Cylinder Tweezers,
1 tin Coating Material,
1 Book of Directions.

Price with Accessories - $20.00

Claudius Ash, Sons & Co., Limited

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NOVEMBER, 1915

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Advertising Section - - - - - Page 31

including the core. When hard, the impression material is removed with the tray, and in the process the core separates and allows play, so that removal from lesser undercuts about other teeth is facilitated, enabling easy withdrawal from the mouth. The core is placed back, and any little deficiency at the joint made good by filling in with wax; then the model can be cast in the ordinary way.—H. J. Trude, British Dental Journal.

Metal Polish. A paste made with rouge and turpentine will impart a most brilliant polish to a cast-gold or other metal denture. We know of no other paste which is equal to it for the purpose, and it is inexpensive.—Claudius Ash, Sons & Co., Limited.

Tube Teeth. The advantages of using tube teeth over all other forms of teeth are these: The necessity of soldering each tooth to the plate is done away with, and the danger of fracture or discoloration is avoided.

Their use also prevents the dark shadows which are produced by metal backings, while their bulbous form gives them a very natural and pleasing appearance.

The small amount of solder required for soldering the posts to the plate, as compared with the mass required for contouring the backings in flat pin dentures, represents a substantial saving in solder in a large practice; moreover, the tube denture when finished is of a higher standard of purity and of one color throughout.—Claudius Ash, Sons & Co., Limited.

Investing Wax Models for Cast Gold Inlays.—Instead of using a fine brush to paint the investment on the wax model, the model is dipped in the investment, which by the use of a chip-blower or the breath is several times blown off. The cast will come out perfectly smooth.—E. W. Fellers, Nebr. Dental Journal.

Controlling Hæmorrhage after Extraction.—The method suggested, the efficacy of which the writer vouches for, though it seem rather heroic, consists in filling the mouth full of common wheat flour, and having the patient close the mouth firmly enough to force the flour into the socket of the bleeding cavity and hold it there till a blood-clot is formed and the bleeding arrested.—W. L. Marcy, Dental Digest.

Hints on Soldering in Porcelain Work.—Borax must not be allowed to touch the porcelain. The investment is heated on each side and from below until the surfaces to be soldered are sufficiently hot to make the solder flow, at the same time making sure that the porcelain is hotter than the pins, and having perfect union to the parts to be united. If the solder flows to one side more than to the other, increase the heat of the investment on the sluggish side.—S. H. Voyles, La Odontologia Argentina.

Method of Adjusting a Gold Inlay.—A quick and accurate method of adjusting a gold inlay, especially one of the large compound variety, consists in heating it to a dull red and then cooling it without dropping it into acid. The inlay is then inserted in the cavity with a slight rocking motion. Any prominent point will be indicated by a bright mark on the oxidized gold, indicating the points requiring relief.—Oral Health.

Fetid Breath and Its Diagnostic Indications.—Of fetid odors, Dr. Hutchinson, of London, has indicated the following types:—(1) Putrefactive type, as in cheese; (2) sulphuretted hydrogen type, as in gangrene; (3) garlic type, as from arsenic or bismuth; (4) sweetish type, as in diabetics and beer drinkers; (5) toxic or hepatic types, as in biliousness and dyspepsias. But we can also recognize others, as (6) ammoniacal types, as found in urinary disorders; (7) acid types, as found in rheumatism; (8) aromatic types, as found after use of foods and drugs.

Different degrees of heat and moisture in the breath modify its odor. Odors also vary in intensity and pungency. Other distinctions are made, but are difficult of application. In fine, it may be said that some of these substances baffle description, beggar language and outrage our sensibilities.—T. W. Corwin, Items of Interest.

Silver has such a great affinity for sulphur that when it is vulcanized with dental rubber it is quickly decomposed by the formation of metallic sulphide. It is this feature in silver which renders its use impracticable in combination with vulcanizable rubber.—Claudius Ash, Sons & Co., Limited.

Hints on Taking Impressions.—In taking upper impressions in older persons, the upper lip should be retracted by means of a retractor. The muscles are relaxed by having the patient pronounce the word "wow." The impression tray should always be tried first in the mouth. In order to counteract undue muscular tension in taking lower impressions, the tongue is protruded as long as the plaster is soft. To improve the taste of the plaster, the writer mixes the water with about a quarter dessertspoonful of an alcoholic solution of orange or lemon peel oil. Mixing three parts of plaster with one part of talcum prevents the breaking of the impression into many small particles.—D. W. Barker, Dental Summary.

A Good Means for Disengaging Adhering Impressions.—If an impression sticks to the palate, the patient is requested to close the lips and to puff out the cheeks forcibly, which will separate the impression from the palate.—La Odontologia Colombiana.

Particulars of the Manufacture of Carborundum for Dental Purposes.—In manufacturing carborundum two elements are

required, carbon and silicon. The former is derived from coke, and the latter from sand.

To ensure the proper mixing of the coke and sand it becomes necessary in the first place to have the coke crushed in a mill; it is then mixed with the sand. After several other details of treatment the mass of raw material is placed in an electric furnace, where for thirty-six hours an electric current is passed through, allowing a path of high resistance. The resistance thus interposed results in the generation of enormous quantities of heat. The temperature of the resistant part of the surrounding coke and sand being raised to a point between 7,000° and 7,500° F., all the impurities and substances of coke and sand are destroyed, and the atoms of these two elements fly together and unite as carborundum.

After being allowed to cool slowly, and on being removed from the furnace, it is found that the outside or outer crust is composed of a thick black mass of amorphous carborundum, which is removed, and leaves the fine remains of beautiful carborundum cyrstals, tinted with many glowing colors.

The crystals are then crushed by immense steel wheels, and the grains are carefully washed preparatory to being sorted into grits, which is done by using screens of different meshes.

Clay binding wheels are then mixed with the different grits, and are fashioned into the different sizes, which are then packed into immense kilns and vitrified at a heat approximated at 2,500° F.—Australian Journ. of Dentistry.

Oil of Cloves as a Carbonizer for Dies.—A little absorbent cotton is wrapped on a match or toothpick, dipped in oil of cloves, and ignited, and with it the die is carbonized in the usual manner. The trouble of dies and counter-dies adhering will be reduced to a minimum by these means.—M. J. Ruzicka, Dental Review.

Avoiding the Sticking of Cement or Gutta-Percha to Instruments.—To avoid the adhesion to instruments of such materials as cement and gutta-percha, in an ordinary vaseline pot with a well-fitting metal screw top, a hole is cut in the lid of about the size of a florin. The jar is filled with cotton soaked in oil, in such a manner that it stands up like a pin-cushion above the rim of the lid; it is covered with a piece of buckskin firmly fixed by means of a piece of string or thread. An instrument drawn across the cushion will take up enough oil to prevent the adhesion of material without becoming inconveniently oily.—Zahntechnische Rundschau, per Dental Record.

Inlay Abutments.—Before deciding upon the use of an inlay as abutment for a fixed bridge, it is important to ascertain whether there is any tendency to or an already established caries

at the labial or buccal cervical margin. The former condition would indicate a strong projection of the labial wall occlusally; the latter generally contra-indicates the use of an inlay.—M. J. Homan, Dental Review.

Cause of Breakage of Platinum Pins in Teeth.—The breaking of platinum pins is invariably caused by bringing the pins into contact with some base metal or substance such as iron, zinc, lead, or carbon, which converts the tough and fibrous metal into a crystalline and fragile material.

The platinum which is used for the pins of teeth must be absolutely good or it could not be successfully drawn into wire and made into pins, hence when a pin breaks and shows a granular or crystalline fracture it is due to want of care in manipulation.

Traces of wax left upon the teeth, especially cheap wax which contains impurities or gum, will when heated quickly carbonize, and as platinum readily absorbs carbon, a crystalline fracture is easily brought about.

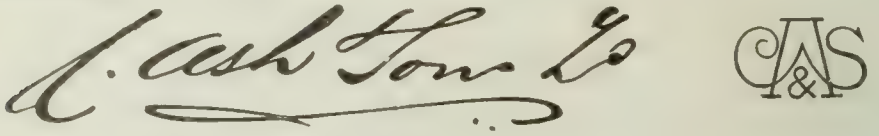
The same remark applies to cheap solders, which should be avoided; they contain base metals which make them very fusible but at the same time most injurious to the platinum pins of teeth.—Claudius Ash, Sons & Co., Limited.

Ash's Dental Rubbers

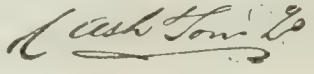
UNAPPROACHED FOR

Excellence, Purity, Strength, Elasticity and Density

To mark the genuineness of our Rubbers, the face of every box and envelope which we supply bears this signature and monogram—



and one of the pieces of cloth in which each sheet of Rubber is packed bears this signature—



in addition to the name of the Rubber. Always ask for ASH'S when ordering our Dental Rubbers.

IMPORTANT

The best results are obtained with Dental Rubber when it is packed in very small pieces.

Extremes of temperature, especially cold, render it tough in time, and it is then not so easy to pack as new Rubber.

The toughness in no way affects the quality, and the packing is not difficult if the Flask is thoroughly warmed and the Rubber is softened on the Hot-Water Plate—on no account should dry heat be used.

We guarantee full weight in every box or envelope of Rubber of our manufacture, exclusive of the tracing cloth in which it is packed.

CLAUDIUS ASH, SONS & CO., Limited

Ash's Gum Pink Light Rubber

Gives the closest reproduction of the natural gum of any Dental Rubber. While it has been extensively copied it has never been done successfully. Should any salesman tell you that another brand is "just as good as Ash's," use your own judgment.

It has been before you years out of number and has never yet failed you. Does it pay to experiment? We have done all that for you and the result is known the world over.

Price per pound - - - $6.50

Direct or through your dealer.

Claudius Ash, Sons & Co., Limited

Ash's Dental Rubbers

Are the best in the World, and are the standard by which all others are judged.

NOTE.—Our Rubbers weigh 16 ozs. to the pound, exclusive of linen backing and box.

FOR COATING

	Per lb.	5-lb. lots	10-lb. lots	20-lb. lots
New Pink, Medium No. 1X Pink, Medium No. 1 Pink, Light Gum Pink, Medium Gum Pink, Light	$6.50	$5.90	$5.59	$5.25
No. 2X Pink, Medium English Pink, Medium English Pink, Light	5.50	5.00	4.75	4.50

FOR BASE

Improved Black Combination White for Side Blocks, etc Child's "G" A. E. Elastic, Dark Brown W. Elastic, Dark Brown Whalebone No. 1, Dark Brown	5.00	4.55		
Whalebone No. 2, Light Brown Solid Base	4.50	4.10		
Dark Red Flexible Base Dark Elastic Maroon	4.00	3.65		
Red Orange Dark Brown Brown English Base	3.50	3.20		

SPECIAL—FOR TENDER GUMS, ETC.

	Degree Fahrenheit	Time		lb.
Soft Pink, for lining Palates	310	1	15	$6.50
Soft Dark Red	310	1	15	5.00
Vela for Artificial Palates	270	6	0	6.50
Brown Weighted				4.75
Pink Weighted				6.50
Brown Repairing				5.00
Pink Repairing				6.50

NOTE.—Cash Discounts do not apply on quantity rates on our Coating Rubbers in any quantity over 5 lbs.

CLAUDIUS ASH, SONS & CO., Limited

TRIKRESOL-FORMALIN

SOLUTION AND PASTE

(Dr. J. P. Buckley's Formula.)

DIRECTIONS FOR USE.

1.—In Teeth with Gangrenous Pulps, open up the cavity and clear out the canal or canals. Soak one or more cotton pellets in the Trikresol-Formalin Solution, insert in the canal or canals, and securely seal the cavity with Fletcher's Artificial Dentine to make it perfectly air-tight.

After one or two days remove the cotton pellets, wash out the canal or canals and cavity with a 3 per cent. solution of Carbolic Acid, and then thoroughly clean and dry out.

Now flow a drop of the Trikresol-Formalin Solution in the canal, or in each canal if more than one, fill the canal or canals with Trikresol-Formalin Paste, and proceed with and complete the permanent filling.

2.—Trouble subsequent to Root Treatment. When inflammation with swelling and pain develops in teeth, the roots of which have been long previously treated, and trephining has to be resorted to, they should be left open under Trikresol-Formalin Dressings for a few days; the treatment described above, under No. 1, can then be completed in two sittings.

3.—Pulp Amputation and Nerve Extraction. In cases of pulp amputation and nerve extraction insert in the canal a cotton pellet soaked in Trikresol-Formalin Solution, seal air-tight with Fletcher's Artificial Dentine, leave for a few days, then remove, flow a drop of Trikresol-Formalin Solution in the canal, fill it up with Trikresol-Formalin Paste, and insert the permanent filling upon it.

4.—Gangerous Pulp and Fistula. Should a gangerous pulp be accompanied with a fistula, Dr. Buckley opens the fistula, drains off the pus, inserts cotton pellets soaked in Trikresol-Formalin Solution and seals perfectly air-tight with Fletcher's Artificial Dentine. If necessary the treatment is repeated several times. The final stages of the work are carried out as described above under No. 1.

The most successful results are obtained when the above directions are faithfully followed.

Large package.....$1.75 per box.

RADICIN

HAS CURED THOUSANDS OF
CASES OF
PUTRESCENT PULP
TROUBLE IN ONE SITTING

SEND A MAIL ORDER NOW
PASTE and LIQUID - $1.50

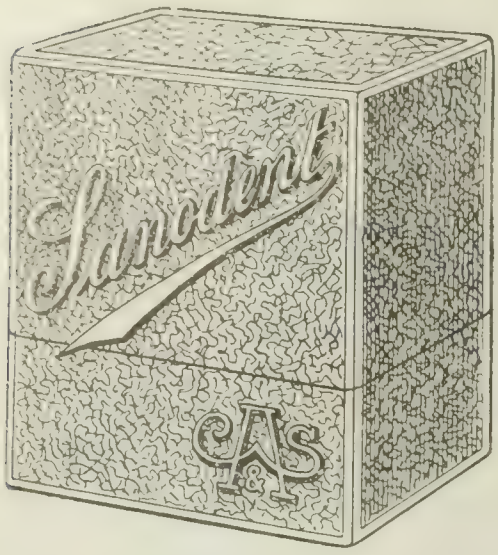
Claudius Ash, Sons & Co., Limited
SOLE AGENTS

Ask about Bleaching with Radicin

RADICIN

¶ To those who are using Radicin in treatment of Pulpless Teeth, it has an additional feature accidentaliy discovered. In treatment of upper right lateral incision for Mrs. M., I had thoroughly saturated root canal with LIQUID OF RADICIN. Wishing to wash this out to give a second application I used Wampole's Peroxide of Hydrogen. To my surprise after the effervescence had ceased, I noticed that the discoloration had been bleached out, the tooth had been returned to normal color. Finished and filled in April, have seen this particular one since and no change in color. Have just as good results in those bleached in this way since that date.

F. R. PORTER.



Sanodent

(Registered)

A Superior Root Dressing

FROM THE FORMULA OF

MR. C. R. FITCH, L.D.S., Eng.

Sanodent has been regularly used and well tested for nearly four years with the most satisfactory results, hence it is offered to the profession as a

Thoroughly Reliable Preparation

DIRECTIONS FOR USE

As a Dressing for Septic or Abscessed Teeth.—Thoroughly clean out the contents of the Pulp Chamber and Root Canals in the usual manner. Mix the Sanodent Powder and Liquid to the consistency of thick cream and apply on Cotton Wool to the Root Canals and Pulp Chamber. Repeat these dressings until the tooth is perfectly "sweet." Then permanently fill the Canals with either Asbestos Fibre, Gutta Percha Points, or Cotton-Wool covered with Sanodent mixed to a fairly thick paste.

In very septic teeth, which at the time of treatment are not abscessed, it is advisable at the first to clear out the contents of the Pulp Chamber only, apply a dressing of Sanodent, and leave the treatment of the Canals until a subsequent visit, when their contents will be far less septic.

Some Other Uses.—In those cases in which for some reason or other (*e.g.*, Tortuous Canals), it is impossible to clear out the Canals thoroughly, cover the orifices of these Canals with Sanodent mixed to a paste, and carried to place on Asbestos Fibre or Cotton Wool. Any remaining Pulp will be preserved in an antiseptic condition.

As a "Mummifying" agent, those who practice "Mummification of the Pulp" will find Sanodent excellent. Subsequent to devitalising and removing the coronal portion of the Pulp, apply Sanodent, mixed to a paste, on either Asbestos Fibre or Cotton Wool.

After the application of Arsenic, a dressing of Sanodent left on for a day, prior to attempting the removal of the Pulp, will render the pulp tough and thus admit of its being much more easily removed whole from the Canals.

Sanodent is very useful as a permanent Root-Canal Filling when it is mixed to a paste and used in conjunction with Asbestos Fibre, Gutta Percha Points, or Cotton-Wool.

N.B.—Do not force Sanodent through Apical Foramina, and do not seal it in contract with living tissue, either pulp or gum. Sanodent is not intended to replace proper Root Treatment, but to aid it.

Sanodent is supplied in stoppered bottles. The bottles should be kept well closed when they are not in use. After exposure to light and air the liquid becomes somewhat darker in color than as supplied, but this is no detriment to it, and in no way affects its efficacy.

Sanodent Powder and Liquid in Packets, per packet..... $1.50

CLAUDIUS ASH, SONS & CO., Limited

Ash's Globe Copper Amalgam

(From the formula of Profs. W. D. Miller and Jung.)

Alloyed with 2½ per cent. of Tin. Recommended for colour, setting properties, and hardness.

This amalgam of Copper and Tin is the outcome of many experiments on the part of the above-mentioned eminent Professors Miller and Jung.

Price.....per oz. $1.00
In 6-oz. lots.....per lot 5.00

At the time of its introduction Professor Miller in an exhaustive paper describing the experiments (Cor. Blatt., Apr., '94), said that the addition of tin in these proportions, viz., 2½ to 3%, was clearly proved to have the effect of lessening the chemical dissolution of the copper in the fluids of the mouth. Further, that it favourably affected the colour of the fillings, which remained grey in contrast to the black of the copper amalgams without tin. Extensive experiments for detection of shrinkage were carried out, and we have evidence from Germany, where it has been largely used since 1893, to show that in actual practice the conclusions drawn from the experiments as to its value as a filling material have been confirmed.

DIRECTIONS FOR USE.

Heat the Amalgam in a ladle until beads of mercury ooze out, crush it thoroughly in a mortar, knead well together in the hands, and use at once.

Ash's Popular Broaches

Coarse
Medium
Fine
Extra Fine
XX Fine
XXX Fine
Assorted

Per Gross - $4 00

CLAUDIUS ASH, SONS & CO., Limited

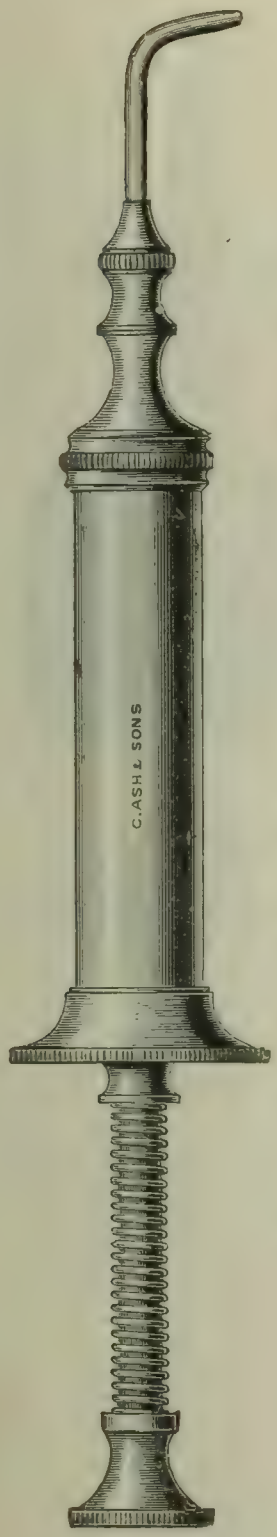
HAVE YOU NOT YET TRIED

Nielsen Separating Plaster ?

Made in Copenhagen

Small Tin	-	$1 50
Large Tin	-	2 50

CLAUDIUS ASH, SONS & CO., Limited



7¾ inches

Hunt's Fig. 1 Self-Filling Warm-Water Syringe

ORIGINAL FORM.

(From Pattern furnished to us by Dr. W. A. HUNT, of Yeovil, in 1870.)

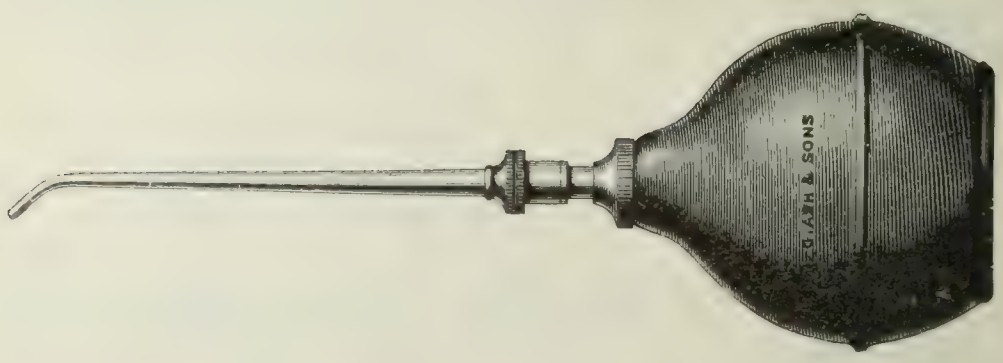
This Original Form of Dr. Hunt's Self-Filling Warm-Water Syringe is known all over the world, and Dr. Hunt sets forth its advantages in these few simple words:—

"The syringe with the spring compressed, as shown in the illustration, is put into a tumbler of warm water; thus when the Operator wants to use it the barrel is full of warm water immediately ready to his hand.

"Those who treat teeth are fully alive to the need of water in their syringe which is comfortably warm."

Syringe, nickel-plated, with screw-off curved nozzle and leather plunger... $1.85

Ash's Fig. 2 Chip Syringe

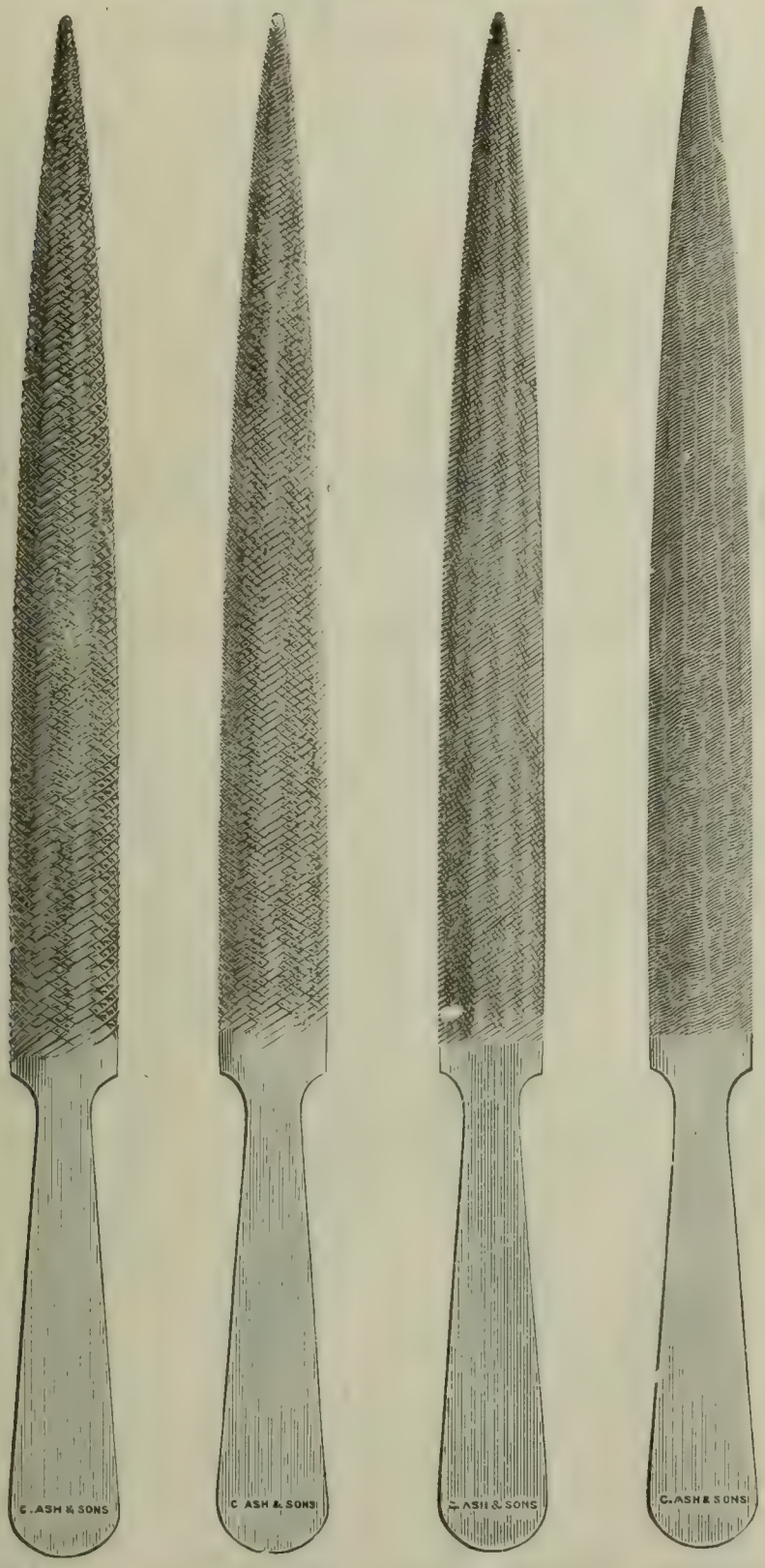


This Chip Syringe has been so long and favourably known that it needs no further description.

Price.....85c.
Extra Bulb.....65c.

A complete stock of our many patterns of Bulb and Metal Syringes constantly kept in stock.

Stub's Files



Ex-Rough Rough Bastard Smooth

Stub's Files

The illustrations on the previous page show different styles of 4½-inch Files, full size. In the larger sizes the cuts run somewhat coarser. The Bastard and Smooth are intended for Metal Work, the other kinds for Vulcanite Work.

Stub's Files have for years been the standard of the world, and no others have approached them in excellence.

Stub's Double Ended Files

For Vulcanite Work

HALF ROUND, ONE END EXTRA ROUGH, THE OTHER END : : ROUGH : :

These Files like the single ended patterns are excellent, and after having used them you will refuse all other makes.

The prices of these Files are most reasonable.

Send us your order—it will be promptly executed.

Claudius Ash, Sons & Co., Limited

Ash's Nerve Canal Pliers

Straight and Curved

For Removing Broken Drills from Root Canals



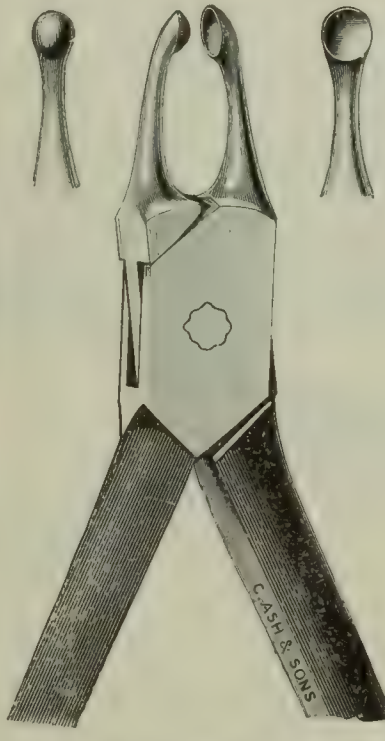
In preparing root canals for filling it sometimese happens that a drill is broken, and the question then arises how the piece left in the root can best be extracted.

The points of these Pliers are fine enough to enter the root canal and to grasp the thin stem of the broken point that is lodged within it.

Price, Straight or Curved, $1.35.

Patrick's Contouring Pliers

Fig. 1



$5\frac{3}{4}$ in Long

Fig. 2



$5\frac{1}{2}$ in. Long

These Pliers are too well known to need an elaborate description. Pattern No. 2 finds the most favour. It should find a place in every laboratory.

Price either pattern - - $1,90

ASH'S SIMPLE GAG



Vulcanite with Soft Rubber Pads

Large, Medium, Small

Each - - - - 40c.

GUM-CUTTING FORCEPS

Designed by (Mr. Woodhouse)



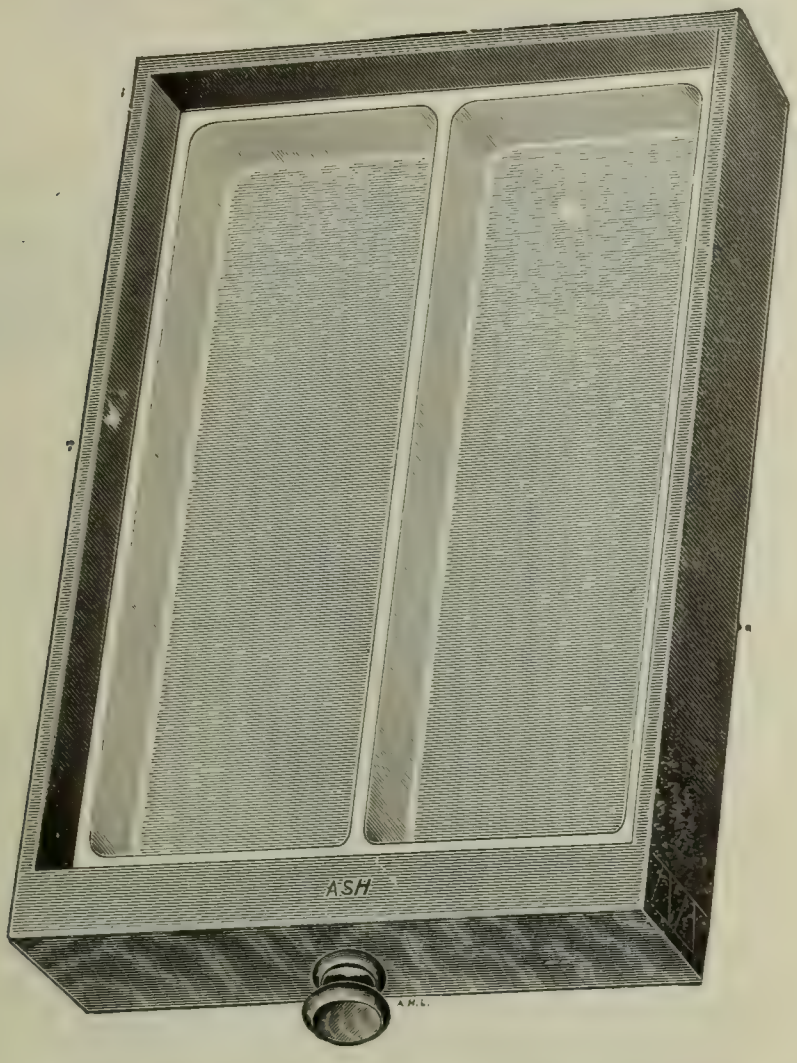
For removing gum from the masticating surfaces of partially erupted Wisdom Teeth. Before apply the Forceps, make an incision with a lancet along the anterior margin of the tooth : then insert the blade, and remove the gum by firmly closing the handles.

This instrument cannot be Nickel-plated without spoiling the cutting edges.

In Polished Steel - - $2.50

Porcelain Tray

Divided down the Middle. For Long-Handled Instruments.



The two small sizes of Porcelain Trays for small instruments and useful sundries have been so favorably received by the Profession that we have decided to add the size here illustrated to our stock for long-handled instruments.

It is made to fit the drawer of Allan's Bracket Table, the outside dimensions being 7¾ in. long by 4¾ in. wide by ¾ in. deep, but it can be lifted out of the drawer if desired and used in any situation most convenient to the operator.

It is perfectly aseptic, and practically equal to new each time it is cleaned.

Price.....each 40 Cents

Claudius Ash, Sons & Co., Limited

Medicine Bottles



A nice assortment of these bottles all labelled, makes a good impression. The labels on these bottles are burned on and are therefore practically indestructible.

We carry a good assortment of these labelled for the most popular drugs, but we will have any labels burned to your order.

In Neat Cardboard Box, Each 50 Cents

Claudius Ash, Sons & Co., Ltd.

Carter's Celluloid Strips



These are the first Celluloid Strips that were put on the market for DENTAL USE, and they are still the best although they sell at a lower price than others.

They are invaluable in Silicate Cement Work, and for Matrices.

THIN AND EXTRA THIN

PER BOX - - 40 CENTS

Claudius Ash, Sons & Co., Limited

One Less Step Left to Chance!

Send us a Mail Order for a

Shoemaker-Miller
Inlay Investment Mixer

and ensure uniformity in the mix of your Inlay Investments.

The most thorough and modern way of mixing Inlay Investments, doing away with the small bubbles that interfere with the perfection of casting and fit.

PRICE - $1 25

Claudius Ash, Sons & Co., Limited
TORONTO

Ash's Operating Stool



Most of our sales for these stools are made to dentists who have been practising ten years or more.

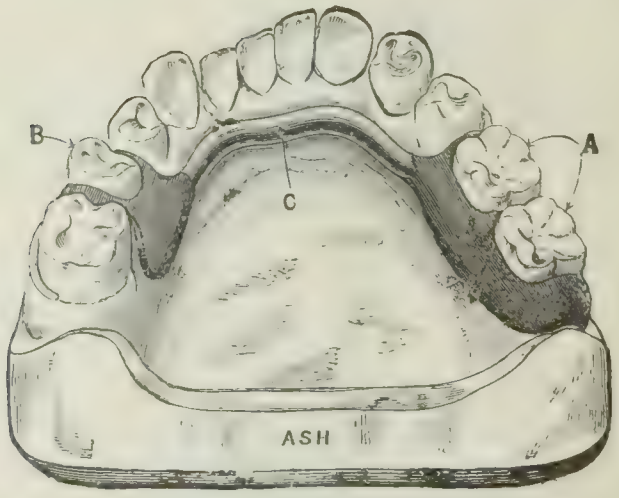
Invariably these customers tell us in a short while that they should have operated from a stool years before. They have locked the door after the horse has been stolen.

Your years of usefulness will be greatly lengthened if you use a stool early in your career, and you will save yourself many a tired day and troublesome backache.

Price . . $20.00

Ash's Oval Gold Cased Wire

For Bar Lowers



Bar Lower Dentures have come into universal demand, Note some of their advantages.

No tendency to push teeth outwards.

Greater cleanliness.

Less bulk.

Greater rigidity.

Per dwt.....40 Cents

A Page of Good Dependable Waxes

OUR many years ot experience as makers of high class Wax for Dental purposes has enabled us to put products of the highest merit at reasonable prices at the choice of the discerning Dentist.

Ash's Pink Wax, No. 3 (low heat)	per lb.	.85
Ash,s Pink Wax, Extra Tough	"	1.10
Ash s Yellow Wax, Extra Tough	"	1.10
Ash's Vellow Bite Wax - -	"	1.10
Ash's Black Wax (Sticks) for Inlays	per box	.35

A Mail Order, or a request from any of our travelling men will bring you prompt-service.

Claudius Ash, Sons & Co., Limited

PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice, Windsor, Ont. Apply Ash & Sons

FOR SALE—Dental Practice, St. Stephen, N.B. Apply Ash & Sons

FOR SALE—Dental Practice, Langham, Sask. Apply Ash & Sons

GRADUATE ASSISTANT WANTED—New Brunswick. Must be Experienced. Apply Ash & Sons.

SECOND-HAND GOODS

1 Davis Gasometer, less Face Piece and Tubing, excellent condition - - - - - - - - - $18

1 Davis Gasometer
1 Mills Centrifugal Casting Outfit } - - - - - 25
1 Olivian Swager

1 Ritter Overhead All Cord Engine, 110 V., D.C. - - 75

1 Ritter Overhead All Cord Engine, 110 V., D.C. with H.P. and R.A. - - - - - - - - - 75

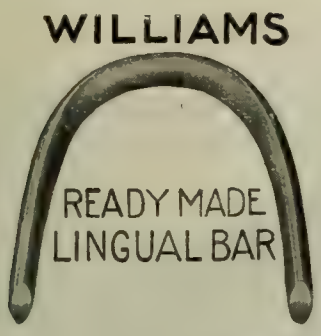
1 Electro Dental Water Glass Heater - - - - 6

2 Ritter Battery Engines. New. Will sell cheap.

1 Second-hand Ritter Caustic Potash Battery Engine, New 150

1 Second-hand Ritter Storage Battery, Engine and Lathe, cost of operating has not exceeded 50c. per month. In A1 condition, An offer is requested.

Claudius Ash, Sons & Co., Limited



WILLIAMS READY MADE LINGUAL BARS are properly bent, contoured, and semi-adjusted so that with very little manipulation they can be made to fit any case. Made with both plain and corrugated ends.

GOLD CASED BARS

Made of WILLIAMS OVAL LINGUAL BAR 18 k. and guaranteed for 10 years.
Guages (8x12—9x14—10x13) - - $1.25 each

Made of WILLIAMS OVAL LINGUAL BAR 18 k. 1/5 the thickness of the bar, and guaranteed for 20 years. Guage 9x14, $1.50 each

SOLID GOLD BARS

Made of WILLIAMS 18 k. gold, 10 per cent. platinum
Guage 9x14, $4.00 each. Guage 10x13, $3.50 each.

Made of WILLIAMS 16 k. gold, 2 per cent. platinum
Guage 10x13, $2.00 each.

YOUR DEALER OR

THE WILLIAMS GOLD REFINING CO.

REFINERS TO THE DENTAL TRADE

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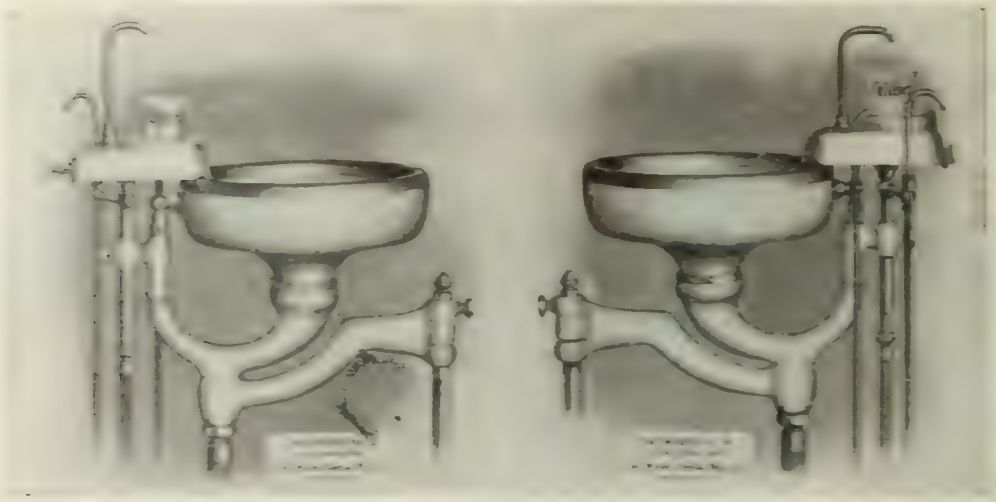
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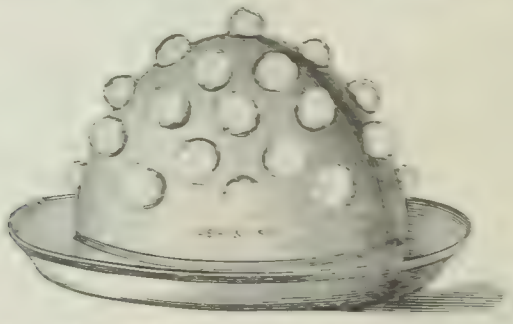
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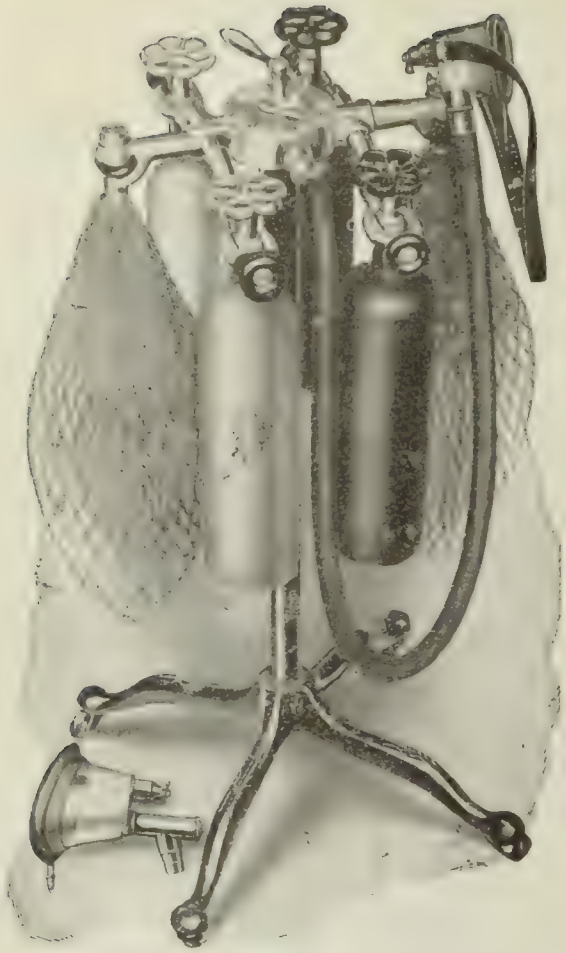
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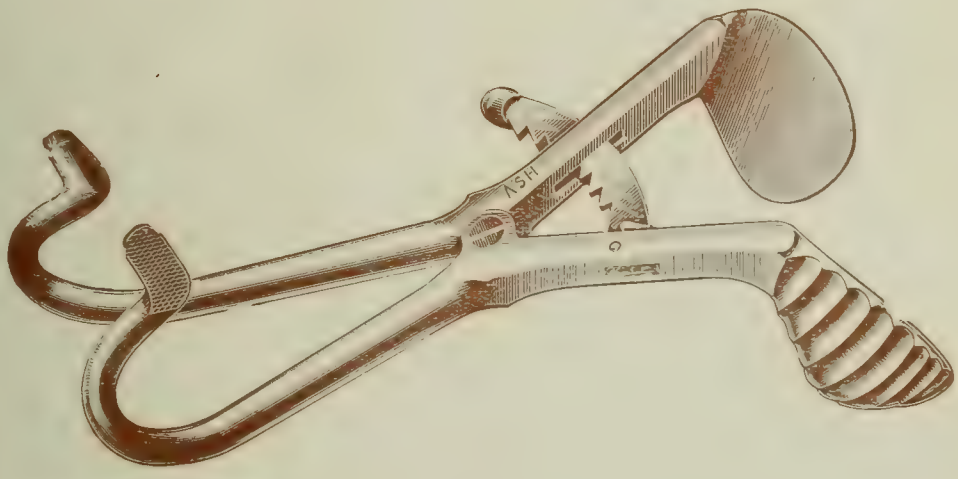
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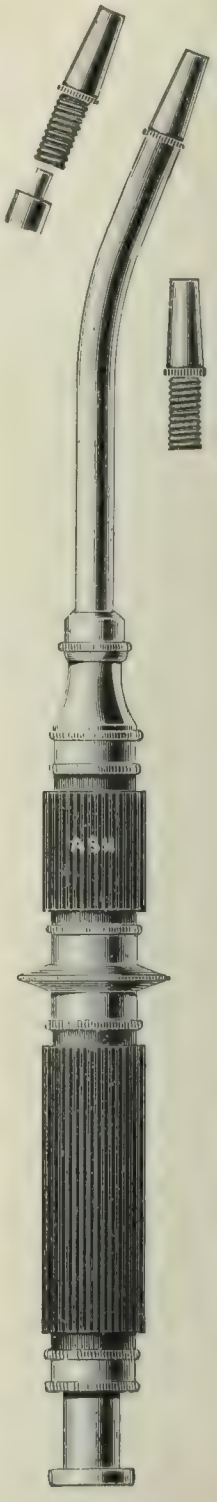
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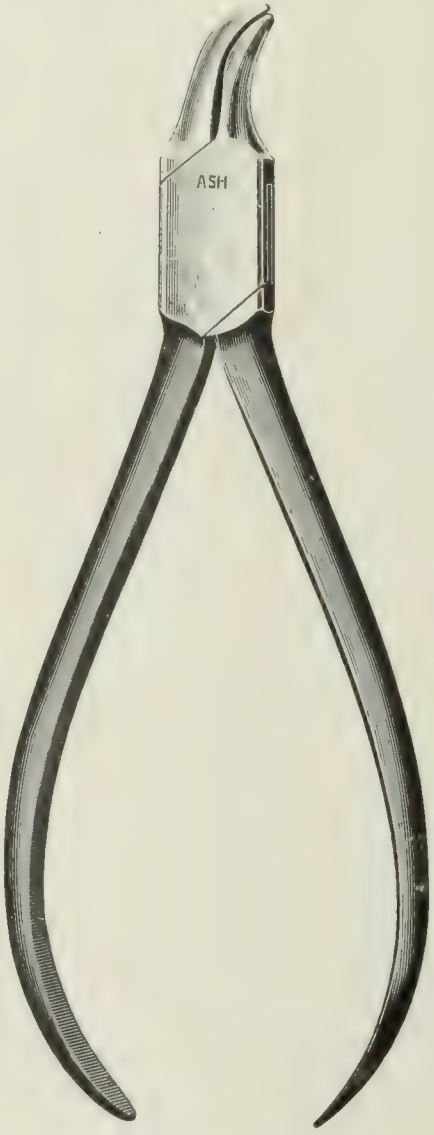
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Ash's Canadian Quarterly Circular

VOL. V. TORONTO, FEBRUARY 1, 1916 No. 12

DENTAL DISEASES IN RELATION TO PUBLIC HEALTH.*

Report by HAROLD WILLIAMS, M.D., LL.D.,
Boston, U.S.A.

In accepting the invitation of the Section of Stomatology of the International Congress of Medicine to present a paper upon the relation of Dental Diseases to the Public Health, the reporter realizes the difficulty of the task he has assumed—a difficulty which is rendered greater in his especial instance in that he is not a dental surgeon nor in any sense a practitioner of the dental art. On the other hand, in an administrative capacity as a trustee of the Boston Dental College and of the Forsyth Dental Infirmary for Children, and as the *ex-officio* Dean of the Tufts College Dental School for the past fifteen years, and as Physician to Children at the Boston Dispensary for a long period of years, he has had unusual experience in observing and appreciating the high importance of oral hygiene in the protection of children and the consequent conservation of the public health. The hygiene of the mouth he has learned to regard as one of the most important branches of modern preventive medicine, and it is with this conviction, and with the hope that he may even remotely contribute to furtherance of the cause by describing what Boston is attempting to do to meet present conditions, that he has accepted the invitation of this eminent assemblage.

In presenting this subject to your attention I would say at the outset that the question is greatly complicated by the absence of exact knowledge and statistics. That a mechanism works more harmoniously when all its parts are in perfect condition must be evident to all, even though no statistics exist by which we can prove the assumption. So, in the same way, that the human body must carry on its daily processes more perfectly if the mouth, its chief portal of entry, is in perfect condition, must be equally apparent even if no statistics, the result of exact observation, exist upon which to base the conclusions which follow.

*Communicated to the Stomatological Section of the XVIIth International Medical Congress, held in London, August, 1913.

The important part played by diseased conditions of the oral cavity in the welfare of the individual may briefly be considered under the two headings of local conditions and general conditions, the former including diseased conditions of the oral cavity itself and causing local disability and impairment, and the latter the general or systematic affections caused by or correlated with such local conditions. Hitherto, as it seems to the writer, dentists have regarded their specialty too much from its local standpoint, and have appreciated too little the important relations of the mouth and teeth to the general economy. In such a classification as that above suggested the resulting local diseases of the mouth and naso-pharynx would include all such affections as stomatitis, glossitis, mouth infections in their various forms, pyorrhœa alveolaris, tonsillar and adenoid disease, malformations of the jaws, and diseases of the teeth themselves. An enumeration and description of these diseases would require a treatise in itself. The local effects of these diseases and the suffering and disability they cause are too apparent to demand comment, though attention may properly be directed in this context to the æsthetic value of a normal mouth. Æsthetically considered, there is perhaps no greater physical asset than a sound set of teeth and a healthy mouth, and conversely there exists no greater æsthetic impairment than diseased teeth and deformed mouth. Many a career has been made or marred by this one physical attribute alone, and the direct preservation of life through vocational success may rest upon this single cause.

The diseases of the general economy following upon or correlated with local diseases of the mouth may be treated at somewhat greater length. They may for convenience be divided into the following groups:—

(*a*) Diseases of Nutrition; (*b*) Diseases of the Alimentary Tract; (*c*) Diseases of the Respiratory System; (*d*) Diseases of the Nervous System; (*e*) Diseases caused by Infections.

Diseases of Nutrition.

Diseases of nutrition follow upon diseases of the mouth as a natural sequence. Painful mastication leads to discrimination in the choice of food; proteids are in a large degree excluded from the diet because of their more difficult mastication. Carbohydrates are substituted in their place. This substitution leads to a faulty food supply and consequent faulty metabolism in two ways—first, from a lack of the proper proportion of nitrogenous principles in the food; second, from an undue proportion and imperfect preparation of the augmented carbohydrate supply. It also leads to improper preparation of the proteids taken (meat). Anæmia may follow upon such impaired nutrition.

Important as connected with impaired nutrition is the lowered resistance of the body against infection. Hunter's classical work.

showing the deleterious effect of improper food and of oral sepsis as a cause of anæmia in its various forms, is a brilliant contribution to our modern conception of this important subject. As so many patients with Bright's disease, cirrhosis of the liver, arterio-sclerosis, heart disease, etc., die of tuberculosis and intercurrent infections by reason of their lowered resistance against disease, so it is reasonable to assume that the same train of events may follow in consequence of the lowered resistance caused by the impaired nutrition following upon defective food supply.

The necessity of good teeth in the treatment of patients with impaired nutrition, and especially in the treatment of patients with tuberculosis, has been pointed out by Dr. S. Adolphus Knopf, of New York, in a recent article upon dental hygiene.

Diseases of the Alimentary Tract.

The imperfect mastication of food undoubtedly leads in many instances to acute and chronic gastritis. Food swallowed without proper mastication often contains foreign bodies like pieces of bone, seeds of fruit, and other irritating objects, and these frequently lead to mechanical irritation of the gastro-intestinal tract. The teeth, like sensitive fingers, are the agents by which such foreign bodies are detected in the food, as anyone who has bitten upon a shot or piece of bone will willingly testify. Pieces of unmasticated meat not only act as mechanical irritants to the stomach and intestinal tract, but they act as vehicles for the conveyance to the latter of saprophytic and other bacteria. Ordinary market meat is well known to contain enormous numbers of bacteria, and if the meat bolus consist of imperfectly cooked and masticated components, bacteria may be carried in this manner to the intestine.

Diseases of the Respiratory System.

Diseases of the deciduous teeth and an unhygienic condition of the mouth cause tonsillar and adenoid disease, and thus both directly and indirectly lead to malformation of the jaws.

Diseases of the mouth and teeth are thus a cause of mouth-breathing, and are thus in the sequence of events responsible for much of the laryngitis, bronchitis and pneumonia of childhood. These sequelæ follow from the coldness of the air inspired and from the inspiration of dust. There can be no doubt that the inhalation of sharp particles of dust is often the cause of abrasion of the mucous membrane of the respiratory tract, thus admitting of the entrance of micro-organisms also inspired; and there can also be no doubt that this danger is greatly increased in the case of mouth-breathers, when the air undergoes no filtering process, as when passing through the nose. Mouth-breathing probably also weakens the ciliary action of the mucous membrane, which, again, increases the liability of mouth-breathers to respiratory disease.

Diseases of the Nervous System.

Neuralgia, reflex neuralgias, headache, neuroses of various forms, are frequent attendants upon carious teeth. Habit spasm is sometimes ascribable to this cause, and retarded or perverted mental development in many instances is referable to carious teeth. Children suffering from toothache readily fall behindhand in their school work, and this deficiency, often leading to punishment by authorities uncognizant of the cause, is the initial step of the *descensus Averni* of many an unfortunate child's career.

Diseases Caused by Infections.

By far the most important of the secondary affections following upon oral disease are the group of diseases caused by infections. The mouth is at all times the habitat of numerous micro-organisms. The tubercle bacillus, the pneumococcus, the Klebs-Loeffler bacillus, the unidentified organism causing poliomyelitis anterior, the pyogenic bacteria, and many others, are all well understood to be constantly present in the mouth. The more neglected the condition of the mouth, the greater the liability of their prevalence. More than twenty years ago Miller showed that mouth bacteria swallowed and taken into the stomach could be demonstrated in the intestine, thus proving that the acid secretions of the stomach could not be regarded as a certain barrier against the entrance of bacteria into the intestinal tract. Many persons by reason of an uncared-for mouth act as so-called "carriers of disease," and this fact is of especial importance in the case of children, whose habits and customs render them especially liable to the interchange of bacteria.

To William Hunter, of Charing Cross Hospital, London, is due the credit of insisting upon the importance of the mouth as the chief channel of entrance of the pyogenic organisms, and his insistence upon the possibility of infection from this source is so suggestive that his classification of the possible resulting infections is introduced in its entirety, as follows:—

1. Local affections, such as stomatitis, periostitis, sinus infections, inflammation and infection of the tonsils and the pharynx. Besides these diseases, we meet with many cases of diseases of the middle ear and different portions of the eye, and a host of diseases of the skin often very remote from the mouth. Amongst these may be mentioned acne, alopecia areata, eczema, erythema, herpes, œdema, seborrhœa, erysipelas, and others.

2. Glandular affections, especially about the neck.

3. Gastric and intestinal affections, such as septic gastritis, septic enteritis, colitis and proctitis, appendicitis, cholecystitis, and septic inflammation complicating typhoid ulceration.

4. Hæmatogenous infections causing pleurisies, empyemata, nephritis, pyelitis, and perinephric abscesses, cholecystitis (and among surgical affections, most notably, osteomyelitis) and ulcerative endocarditis, various toxic effects on the blood, nervous system, and kidneys, connected with sepsis.

The poisons act sometimes more on one particular tissue—for example, blood (causing septicæmia, pyæmia, anæmia); or the nervous system (producing severe mental and degenerative effects). Sometimes the toxins may act more on the organs of excretion—for example, the kidney (producing nephritis); sometimes on the skin (producing rashes); sometimes on the joints (producing so-called rheumatic swelling).

In dealing with the great question of the prevention of the conditions the writer has endeavored to outline, it is obvious that remedial measures, to be effective, must be applied to the youthful population of a community. As the conditions existing in Boston are not materially different from those existing in other cities throughout the civilized world, and with the hope of contributing to the amelioration of these conditions, it will be the main object of this present paper to attempt to describe how Boston expects to cope with the problem through the ministrations of the Forsyth Dental Infirmary for Children. Boston, with a population of 720,100, is really the centre of population of a community of 2,000,000. In the city proper there are enrolled in the public schools 118,781 children. In the suburbs and in the immediate neighborhood 110,000 more, making 228,000 school children within a radius of ten miles. Of these 228,000 children it is estimated that 60 per cent. are unable, for pecuniary reasons, to secure the services of a dentist.

Dr. William J. Gallivan, in his Report for the Division of Child Hygiene of the Boston Board of Health for 1911-12, classifies the conditions found as a result of the physical examination of the Boston school children as follows:—

Number of pupils examined		118,781
Total number of pupils without defects		40,850
Total number of pupils with defects		77,931
Defective nasal breathing	9,693	
Hypertrophied tonsils	25,121	
Defective teeth	51,340	
Defective palate	371	
Cervical glands	13,711	
	100,236	
Mental deficiency	501	
Pulmonary disease—		
Pulmonary tuberculosis	133	
Acute bronchitis	1,169	
Asthma	63	
Pleurisy	42	
Miscellaneous	987	
Cardiac disease	3,091	
Nervous disease	505	
Orthopædic defects—		
Tuberculosis	693	
Non-tuberculosis	1,881	
Skin	5,245	
Rickets	1,019	
Malnutrition	3,891	
Total		119,456

It will be observed that defects were found in 65.5 per cent. of the children examined. The defects found total 119,456, and of these the defects originating about the mouth and included under the headings: Defective Nasal Breathing, Hypertrophied Tonsils, Defective Teeth, Defective Palate, and Cervical Glands, total 100,236, or practically 84 per cent. of all defects found.

Most of the defective nasal breathing is due to adenoids (Dr. Gallivan's opinion), and recent work indicates that enlarged cervical glands are not, as has been thought, primarily tubercular, but are related to sources of infection in the mouth, and subside promptly in most cases on cleaning up the mouth lesions.

These statistics do not include defects in the alignment of teeth, with the exception of the most extreme deformities. This, then, is the problem which the school children of Boston proper present at the present day from the standpoint of oral hygiene—a problem not different from that existing in all the large cities of the civilized world. This problem in Boston, it is hoped, will be met by the foundation of the Forsyth Dental Infirmary for Children, an institution now in the process of erection, and dedicated to the children by Messrs. Thomas Alexander and John Hamilton Forsyth in memory of their brothers James Bennett and George Henry Forsyth. The building, which is devoted to the cause of oral hygiene of children, will cost, with its equipment, in the neighborhood of $500,000, and a further sum of nearly $2,000,000 will be provided for its maintenance.

The objects of the institution will be:—

1. To educate parents, nurses and children in the importance of the preservation of the teeth and the best methods of accomplishing the same.

2. To prevent dental caries by oral prophylaxis and by the care and preservation of the deciduous teeth.

3. To investigate the causes and prevention of oral diseases and caries of the teeth.

4. To remedy, as far as possible, existing dental caries and other resulting oral disease.

5. To establish and promulgate a higher standard of dental asepsis.

6. To furnish the dental profession an opportunity for charitable work and the educative experience of a large clinic.

Great stress will be laid upon the carrying out of surgical asepsis as applied to dentistry. The clinical rooms will be so arranged that they and their contents (chairs, cabinets, etc.) can be washed with the hose. A complete set of sterile instruments, including the arm of the dental engine, in a sterile tray, will be provided for each patient. These trays, with their contents, after being used, will be sent to the cleaning room and will be thoroughly sterilized by heat before being furnished to another patient. Outer

clothing will be excluded from the room. Operators and patients will be provided with coverings to go over ordinary clothing.

Another special feature of the institution will be the Laboratory for Dental Research. This department will be under the direct charge of a trained pathologist, and a special fund has been created the income of which will be available for salaries and other expenses of the department. Systematic studies of the causes and prevention of dental caries and of the bacteriology of the mouth will be prosecuted in this department.

As the Forsyth Infirmary is the most extensive establishment of its kind in the world, and as much of its work is in new fields, it is hoped by those having its administration in charge that they may receive the benefit of the advice and experience of the eminent members of the Section of Stomatology.

HINTS AND ITEMS OF INTEREST.

The Principles of Dietetics.—In a very valuable paper on "The Principles of Dietetics," read before the Odontological Section of the Royal Society of Medicine, and published in the *British Dental Journal* for July 1st, 1915, Dr. J. Sim Wallace says:—

"What we want first is to see that the teeth of each succeeding generation are less and less ravaged by decay. We want to be able to note that the ugliness resulting from ill-developed jaws, and ruined and misplaced teeth, which blight every second face we look upon at present, will gradually give place to beauty of form and fitness in function of this conspicuous and important part of the body. We want to be able to show that pyorrhœa, with all its odors and disastrous results, is being controlled and made rare; and, finally, we want to see dyspepsia, resulting from continuous dietetic error, more or less completely banished.

"I am convinced that all this can and will be done by all intelligent and moderately careful people, *provided the true principles of dietetics are elucidated by those in influential places.*"

Weighted Rubber.—Before packing weighted rubber in lower combination cases, whalebone or other base rubber should first be packed around the pins of the pin teeth and in the holes of the diatoric teeth, for the sure retention of the teeth.—Walter Sutton.

To Sterilize Instruments.—Use an oblong enamelled dish bought at hardware store, just right size to hold forceps, etc.; fill with water, using about a teaspoonful or more of common washing soda, costing one or two cents per pound; remove forceps after boiling, and when right to handle polish with towel; will look like new, and there will be no "rusting."—C. P. S., *Dental Review*.

A Way to Keep Oil of Cajeput.—Many practitioners use oil of cajeput or some other oil for smoothing off the wax model for an inlay before removing from the cavity. To prevent using an excess and spilling the contents of the bottle, take an ordinary medicine bottle, fill with absorbent cotton; pour oil on this cotton until slightly saturated. When the pellet of cotton, held in the cotton carrier, is immersed into the oily cotton of the bottle, it will not become over-saturated.—F. S. Dilger, D.D.S., Chicago.

Applying Desensitising Paste to Live Teeth Preparatory to Crowning.—Separation is secured with separating discs, and the lingual and buccal plates of enamel are ground away, also the enamel of the occlusal surface; the object being to get as complete an exposure of dentine as possible, particularly so in the regions requiring additional grinding. The enamel may be ground away without pain or discomfort to the patient.

A suitable celluloid tooth form or shell is next selected and trimmed to approximate the gingival margin of the tooth, after which it is placed in hot water to soften.

The tooth is now protected with cotton rolls and thoroughly dried, and the desensitizing paste applied to all the areas requiring additional grinding. For the purpose of sealing the celluloid cap in position either a temporary cement, a quickly evaporating cavity lining or sandarac may be used. I believe sandarac varnish to be the most satisfactory. The tooth is covered with sandarac, and the softened celluloid cap pressed to position—doubling the celluloid upon itself lingually and buccally, if necessary, to get close adaptation in the gingival third. While still soft, the patient closes to secure proper occlusion, after which the form is chilled to harden. This will seal perfectly for forty-eight hours, or longer if necessary.—J. H. Harrison, Hazelton, Pa., *Dental Review*.

The Chayes Grinding Attachment

Dentists have been in the habit of grinding porcelain teeth without any regard to precision of the tools used or of the effect such grinding would have upon the final resistance of the porcelain tooth to the stress of mastication.

It has been definitely proven that any porcelain tooth into which metal pins or sockets have been backed is at its best a very vulnerable piece of material and susceptible to checking upon being in the least unevenly heated.

The grinding of such material upon stones that are in the least untrue and indifferently moistened in an empyrical manner renders the porcelain very friable by causing innumerable microscopic checks which radiate from the metal pins outward to the periphery of the tooth, which will then under the slightest masticatory stress part into several pieces and bring about the disagreeable necessity of repair.

The grinding of porcelain upon a dry or indifferently moistened stone will cause an overheating of the tooth and a filling up of the pores of it with fine particles of carborundum dust which is impossible to remove and which forever mars the appearance of the tooth so ground.

Glass is a substance very similar in its peculiar properties to porcelain used in the manufacture of teeth, and the dentist might do well to learn some of the methods employed by the mechanician working in glass or lens factories and grinding these friable substances. We note first that these men have a



Showing the effect on porcelain teeth when ground with a dry stone (bottom row) and with a wet stone (top row). You will note that the teeth ground dry present a very dirty and uneven surface, while those ground on a wet, true and clean stone present a clear almost polished surface. The time and labor required to finish and polish the tooth ground on a wet stone is reduced to a minimum.

definite rest for their hands when they are engaged in the process of grinding. That the hands must rest upon a surface which will support them with greatest degree of comfort and be conducive to an easy flexion and extension of the fingers without unduly tiring the muscles and tendons engaged in this work.

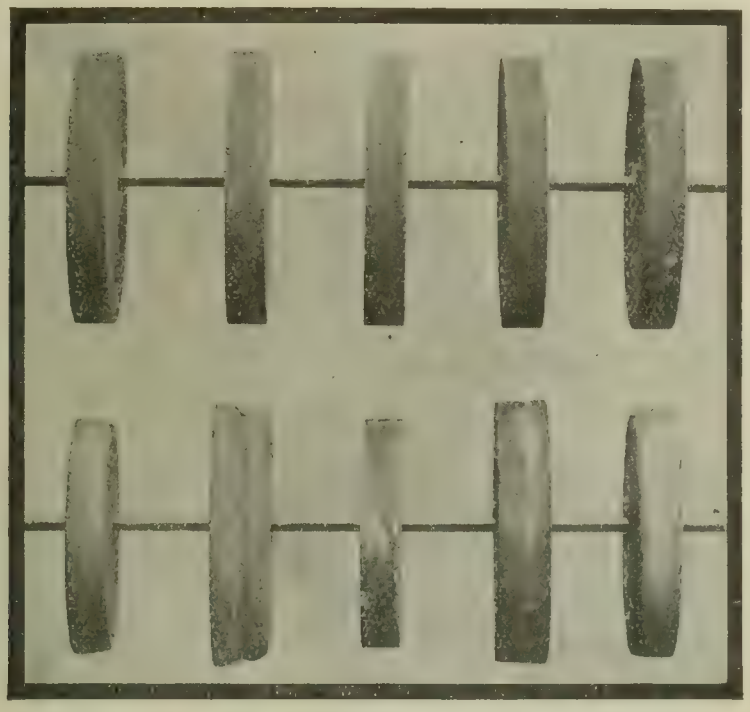
The rest should form an arched bed or support for the soft tissue covering the fifth metacarples and digits which should never be allowed to leave this bed while grinding is in progress.

The thumbs and index, rarely the middle fingers, are engaged in feeding the work up to the grindstone, which is constantly supplied with a quantity of fluid and prevents a change of temperature likely to endanger the integrity of the object being ground.

Should any tool which is used for grinding glass become in the least untrue it is immediately trued or discarded, and any mechanic who disregards these simple principles in a glass factory is subject to dismissal.

Beveled, plate glass or cut glass is extraneous or ornamental material not indispensable to the well being of the human organism, yet the manufacturer who produces it uses more care, more science in its production and conformation, while he has it

ground into shape, than the dentist uses in grinding and conforming the porcelain teeth which he puts into the human mouth to become an interplaying part of the functioning masticating apparatus.



Showing a few stones we have gathered from dental laboratories, and on which it would be impossible to do accurate grinding. Compare the stones in the bottom row that have been in use from three to six months with the new stones in the top row. It is quite possible that one could find a duplicate of any of these untrue stones in 80 per cent. of the dental laboratories. It is quite apparent that more accurate grinding can be done on a fine wet stone than a coarse dry stone, and for this reason it is advisable to use a stone of fine grit.

Dentist and laboratory men are in the habit of grinding the surplus solders of bridgework with small stones held in the engine handpiece, thus putting a terrific strain upon the delicate mechanism of the handpiece and carelessly overheating the gold often checking the teeth on such bridges. These small carborundum stones are rarely if ever true, thus they jar the handpiece and grind the work unevenly, both undesirable operations often terminating in physical and mental distress to both dentist and patient.

The greater part of grinding of crowns, bridges, and the surplus of the gold inlays should be done upon the lathe, it should be done while the hands are resting upon an arched comfortable support placed at a fixed distance from the grindstone in use. The stone should be perfectly true, it should revolve rapidly, and it should be constantly moistened with a sufficient quantity of water to prevent its heating either of work being ground or the fingers holding it.

Means should be at hand to constantly clean the stone and prevent its clogging up with fine particles of gold or whatever substance is being ground. Means should also be provided to efficiently and quickly true the stone, if it should by reason of wear become untrue, and last but not least, it should be possible to save every grain of gold ground from the crown, bridge or inlay in a convenient and easily recoverable manner.



Showing the position the attachment should occupy when set up with dental lathe. You will notice that the stone is situated directly in the centre of the slot provided for it, and that the attachment is at right angles to the shaft of the lathe.

An apparatus which will enable the dentist to do this grinding as here outlined will fill a large void in the dentists' equipment, it will prevent the checking of teeth, it will save him many hours of work, worry and chagrin, it will enable him to do more accurate, more definite, more precise grinding and will actually prove an investment which will place many dollars per year into his pockets.

It is safe to say that at least one half of the gold of the grindings and filings are now wasted by at least 80 per cent. of the dentists, this is due to the inefficient means they have hitherto employed in their laboratories.

THE CHAYES GRINDING ATTACHMENT will enable you not only to do all you should do when you grind teeth, but it will enable you to save every grain of gold you have heretofore lost and so build up a snug sum of money for you every working year, paying for itself many times over again not only in better work but in actual coin of the realm.

The best dentists in the country are heralding this little giant as a great boon, don't you want to equip yourself for better work and easy money?

You are going to do it some time, why not now?

If your dealer cannot supply you, please give us his name or order direct from us.

The Neometric Dental Instrument Co.

INCORPORATED

7-11 West 45th Street New York City

Claudius Ash, Sons & Co., Limited

SOLE CANADIAN AGENTS

Medicine Bottles



A nice assortment of these bottles all labelled, makes a good impression. The labels on these bottles are burned on and are therefore practically indestructible.

We carry a good assortment of these labelled for the most popular drugs, but we will have any labels burned to your order.

In Neat Cardboard Box, Each 50 Cents

Claudius Ash, Sons & Co., Ltd.

Ash's Repair Facings

Made in the patterns shown in booklet which can be had on applic tion, and supplied in sets of 6, sets of 4, pairs and odd.

The three sizes here illustrated are intended to show the distinctive feature to which we wish to draw attention, viz., the oval cavity in the back of each.

They can be used for repairing nearly every kind of denture; they are easily applied, exceedingly durable, and can be quickly fitted—it does not take longer than from 10 to 15 minutes to fit one.



83



71



14

They are invaluable for repairs to Bridges, and in all cases of Plate and Crown work in which a flat tooth has to be replaced.

The oval cavity at the back of each Facing corresponds with the positions of pins in our Flat Pin Teeth. The Facings do not require backing, but can be applied to the backings of fractured or broken teeth when the broken portions of mineral have been removed from the backings.

IMPORTANT NOTE.

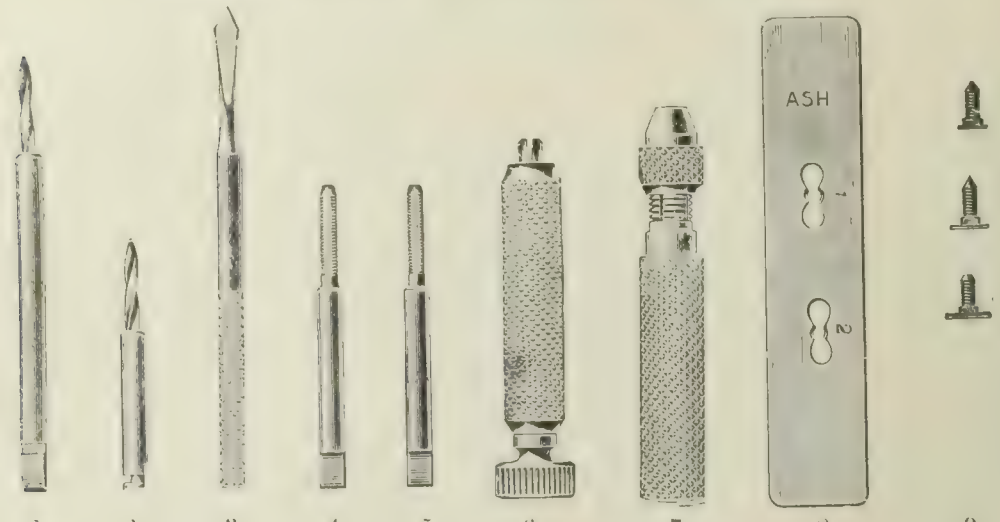
For attaching these Repair Facings to teeth backings, etc., we recommend **our C.A.S. Cement**, or our **Inlay and Crown Cement.**

PRICES:

Per Tooth - - - -	.25
Per 100 Teeth - - -	$18.00

Ash's Repair Facing Outfit

Suggested by MR. H. J. CORIN, L.D.S., Eng.



1 2 3 4 5 6 7 8 9

Figs. 1 and 2, Twist Drills for Straight and Right Angle for drilling hole in backing.
Fig. 3, Countersinking Tool for removing burred edge and countersinking the hole.
Figs. 4 and 5, Screw Taps, large and small.
Fig. 6, Holder for carrying Gold Stud and screwing it into position.
Fig. 7, Holder for carrying small and large Screw Taps, Figs. 4 and 5.
Fig. 8, Screw Plate for the Dentist's use in making his own Gold Studs, should he desire to do so.
Fig. 9, Small, medium, and large Gold Studs.

DIRECTIONS FOR USE:

In the event of a tooth breaking off a bridge or a plate and bringing away with it one of the pins, leaving the other standing in the backing, cut off the standing pin, grind the backing flat with a small carborundum point, drill a hole in the centre of the backing, remove the burred edge formed by the drill, with the countersinking tool, tap the hole with the small tap (Fig. 5), follow on with the large tap (Fig. 4); again clear away the burred edge with the countersinking tool, fix the stud selected in holder (Fig. 6), and screw it into position right up to the shoulder. The case is now ready for the Repair Facing to be cemented on the stud.

To cement a Repair Facing on the Stud.—Select a Repair Facing of the same size as the broken-off tooth, remove all traces of wax from it, thoroughly cleanse it and the backing with chloroform or pure alcohol; mix C.A.S. Cement or Ash's Inlay and Crown Cement to a thin creamy consistency, smear the backing and the back of the Facing with it, also fill up the undercuts in the oval cavity of the Facing, press the Facing to place, hold it firmly in position for four or five minutes, then trim away excess of cement and coat the exposed edge with Ash's Varnish.

NOTES.

1. The method described above is applicable when both pins come away with the tooth.

2. Should both pins be left standing, in the space left by a broken-off tooth, a Repair Facing can be cemented on them.

Ash's Repair Facing Outfit—*Continued*



A—Broken Pin. B—Pin left standing
C—Spot where new hole should be drilled and tapped.



Repair Facing cemented on to Stud.

Ash's Repair Facing Outfit—*Continued*



PRICES

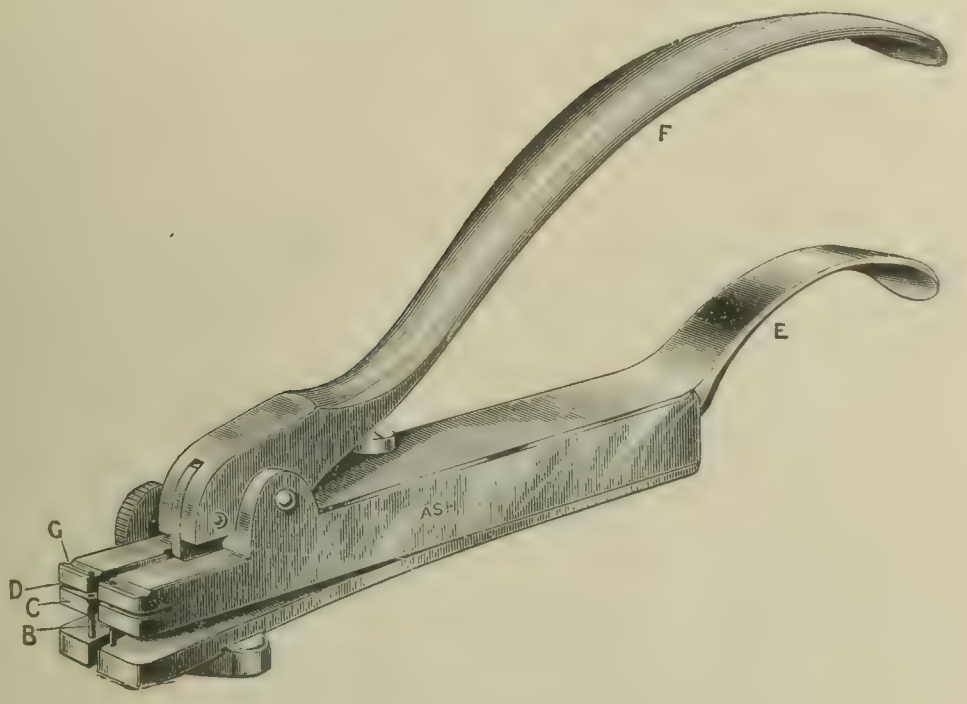
Repair Facing Outfit as per Illustration -	$5.00
Repair Facings, each - - - - -	.25
Extra Gold Studs - - - - -	.45

Send a Mail Order NOW for one of these valuable Repair Outfits and be ready for the next case of repair. : : : :

Claudius Ash, Sons & Co., Limited

Young's Adjustable Perforators

FOR PUNCHING TWO HOLES AT ONCE.



A—Screw which holds the back plate that clamps the pins.
B—Pins.
C—Intermediate Plate with holes that supports and stiffens the pins.
D—Slotted recess into which the metal backing is placed.
E—Lower Level.
F—Upper Level.
G—Groove in upper plate with holes into which the tooth to be backed before punching the backing.

Mr. Young claims that his tool secures, rapidly and with mathematical precision, exact correspondence between the holes in the metal plate used for backing teeth, and the pins of the tooth to be backed. It provides also for the quick and easy disengagement of the plate from the perforating pins after punching. The difficulty of separating, without twisting or injuring the perforated plate (the greatest obstacle to punching two holes at once), is entirely removed.

The risk of fracture in backing teeth is reduced to a minimum.

No measuring is required. The tooth is its own gauge, virtually punching its own holes.

Price, with Set Screw - - - - $5.50

ASH'S EMPIRE CHAIR

The illustrations on the three ensuing pages give an accurate picture demonstration of this chair.

Let us tell you of its virtues. The principal feature of an oil chair is the pump, and in this regard this chair is perfect. It has never been known to leak or settle, and if the operator continues to work the raising lever after the chair has reached its maximum height no damage is done. Not so with other chairs. Though substantially built, it is the lightest and easiest pumping chair made. In lowering, it does not reach the bottom with a thud —the receiving cushion allowing it to come softly and silently to rest.

In case of breakage of the pump spring, a new one can be inserted with the minimum of trouble in a few moments, and without the aid of tools other than a screwdriver. When the pump spring becomes stretched through constant use, a turn of the screw restores the regulating tension.

The disc base is thin, and allows the operator to stand close to the chair without discomfort. The upper body of the chair embraces all the most modern of ideas, as follows:—

Automatic back,
Clutch tilt,
Collapsible arms.

The japanning is the best possible, and the decorating the same, the gold work being all done by hand. The materials and workmanship are the very best, and the chair is a substantial British production throughout, and is absolutely guaranteed. The lines are graceful and pleasing, as demonstrated by the illustrations. This chair is of average range, and has been placed on the market to fill a long-felt want—A THOROUGHLY RELIABLE AND UP-TO-DATE CHAIR—at a price that has never been equalled.

Remember that the cheapness of a chair is not measured by its low price only. The cheapness must be judged by how much you get for your money.

Claudius Ash, Sons & Co., Limited

Ash's New Empire Chair with Wilkerson Head Rest

HIGHEST POSITION OF SEAT - 31 INCHES
LOWEST POSITION OF SEAT - 16 INCHES



In finest Morocco Leather, Linoleum Foot Board.....$190 00
In finest Plush, Carpet Foot Board..... 180 00

6% Discount allowed for prompt cash

This chair is equipped with Collapsible Arms, Clutch-Tilt and Clutch Back

Ash's New Empire Chair with Roll Head Rest

Highest position of seat 31 inches. Lowest position of seat 16½ inches.



This illustration shows the front of the chair with the most ideal of Head Rests in position. One of our customers who has had plenty of experience with other chairs, writes as follows:—

"I was a little afraid of the Roll Head Rest, but wouldn't have anything else on a bet. It's the best chair I ever saw for the money, or for $75.00 more".

In finest Morocco Leather with Linoleum Foot Board.....$185 00
In finest Plush, with Carpet Foot Board..... 180 00

5% Discount allowed for prompt cash.

This chair is equipped with Collapsible Arms, Clutch-Tilt, and Back.

Ash's New Empire Chair with Roll Head Rest

Highest position of seat 31 inches. Lowest position of seat 16 inches



This illustration shows chair in child's position. The Roll Head Rest solves the difficulty that presents itself to the dentist in working with the restless *little* patient. The head is held firmly in the Roll Rest and through the perfect support given, the child does not become so easily tired and restless as with the Sectional Rest.

In finest Morocco Leather, Linoleum Foot Board.....$185 00
In finest Plush, Carpet Foot Board..... 180 00

White Enamel adds $12 00 to above prices.

Less 10% for prompt cash.

Ash's Portable Folding Dental Chair

When folded it occupies a space of 42 inches long by 21 inches wide by 7 inches deep, and weighs 42 lbs. Height of seat 20 inches Depth, 17½. Range of Head Rest from seat 24½ inches to 31½ inches.



The chair is remarkably rigid, the front is strengthened with four brass bars to take the locking bar and foot rest.

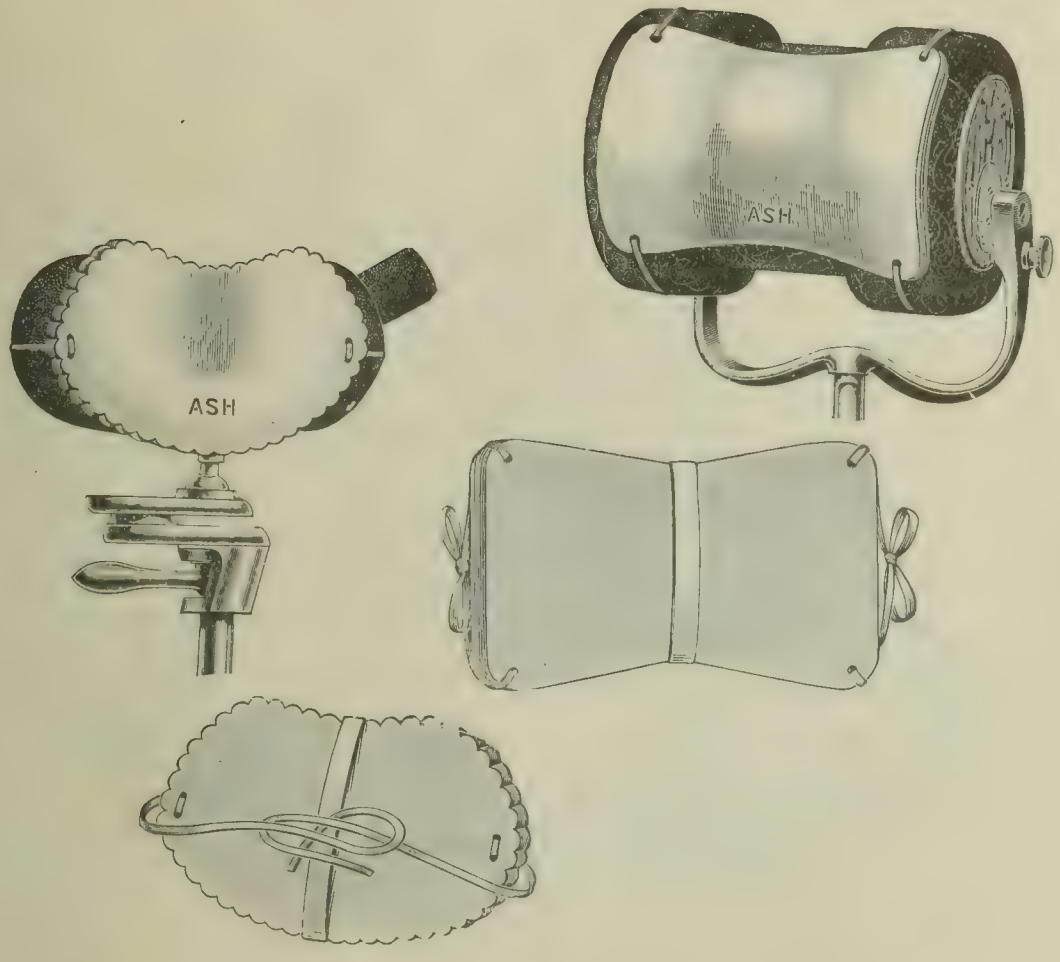
The Head Rest is covered with washable pegamoid and is without seams.

The Back and Seat are covered with linoleum and fitted flush with the frame. Further, the seat is inlaid with two strips of India Rubber to prevent the patient slipping forward. The Back has a large range, and can be adjusted from the vertical to the horizontal in five different positions.

Chair and Foot Rest in Solid Framed Oak $25.00

Claudius Ash, Sons & Co., Limited

Ash's Paper Head Rest Pads



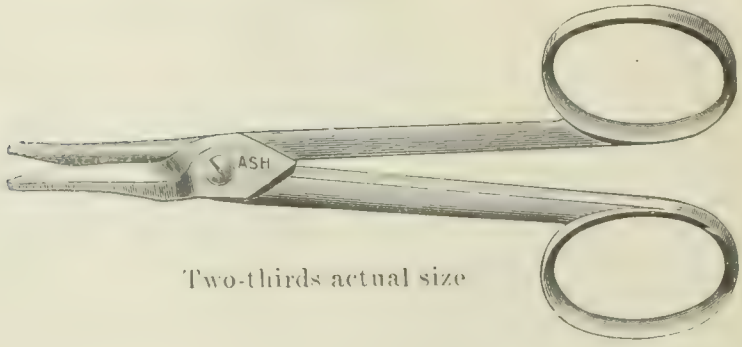
These Pads have come into high favor, and are neat, cleanly, and inexpensive.

We carry them in stock for both Roll and Sectional Head Rests.

For Roll Head Rest -	.60
For Sectional Head Rest -	.70
2 Sets for Sectional for -	$1.25

Universal Plate Scissors

Fig. 10



Two-thirds actual size

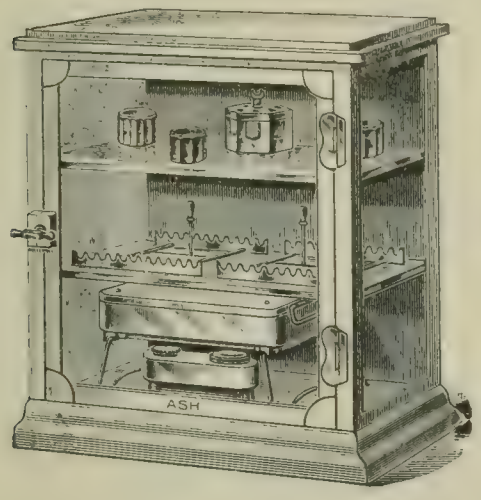


Greatly reduced size

This greatly reduced size illustration gives a very good idea of the power which the operator possesses in cutting metal to any form with the Universal Scissors.

Fig. 10. Scissors, 4½ in. long, Nickel-plated - $1.60

Ash's Sterilizing Cabinet



A Handsome Sterilizer for any Operating Room, made of steel, white enamelled, with glass door, sides and shelves.

Price (empty) - - - -	$12.00
With word "Sterilizer" in Gold	$13.00

Claudius Ash, Sons & Co., Limited

Mouth Mirrors



Since advertising our CONE SOCKET MIRRORS at 25 cents each in previous issues, we have sold many thousands of them.

We want to attract your attention also to our

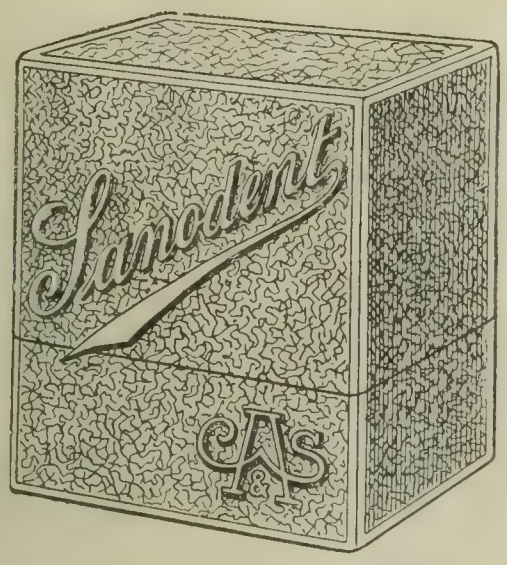
Metal Handle Mirrors

30 CENTS EACH.

We have a fine stock of these and can supply them either PLAIN or MAGNIFYING in the various sizes.

A request postal will promptly bring one to you.

Claudius Ash, Sons & Co., Limited



Sanodent

(Registered)

A Superior Root Dressing

FROM THE FORMULA OF

MR. C. R. FITCH, L.D.S., Eng.

Sanodent has been regularly used and well tested for nearly four years with the most satisfactory results, hence it is offered to the profession as a

Thoroughly Reliable Preparation

DIRECTIONS FOR USE

As a Dressing for Septic or Abscessed Teeth.—Thoroughly clean out the contents of the Pulp Chamber and Root Canals in the usual manner. Mix the Sanodent Powder and Liquid to the consistency of thick cream and apply on Cotton Wool to the Root Canals and Pulp Chamber. Repeat these dressings until the tooth is perfectly "sweet." Then permanently fill the Canals with either Asbestos Fibre, Gutta Percha Points, or Cotton-Wool covered with Sanodent mixed to a fairly thick paste.

In very septic teeth, which at the time of treatment are not abscessed, it is advisable at the first to clear out the contents of the Pulp Chamber only, apply a dressing of Sanodent, and leave the treatment of the Canals until a subsequent visit, when their contents will be far less septic.

Some Other Uses.—In those cases in which for some reason or other (*e.g.*, Tortuous Canals), it is impossible to clear out the Canals thoroughly, cover the orifices of these Canals with Sanodent mixed to a paste, and carried to place on Asbestos Fibre or Cotton Wool. Any remaining Pulp will be preserved in an antiseptic condition.

As a "Mummifying" agent, those who practice "Mummification of the Pulp" will find Sanodent excellent. Subsequent to devitalising and removing the coronal portion of the Pulp, apply Sanodent, mixed to a paste, on either Asbestos Fibre or Cotton Wool.

After the application of Arsenic, a dressing of Sanodent left on for a day, prior to attempting the removal of the Pulp, will render the pulp tough and thus admit of its being much more easily removed whole from the Canals.

Sanodent is very useful as a permanent Root-Canal Filling when it is mixed to a paste and used in conjunction with Asbestos Fibre, Gutta Percha Points, or Cotton-Wool.

N.B.—Do not force Sanodent through Apical Foramina, and do not seal it in contract with living tissue, either pulp or gum. Sanodent is not intended to replace proper Root Treatment, but to aid it.

Sanodent is supplied in stoppered bottles. The bottles should be kept well closed when they are not in use. After exposure to light and air the liquid becomes somewhat darker in color than as supplied, but this is no detriment to it, and in no way affects its efficacy.

Sanodent Powder and Liquid in Packets, per packet..... $1 50.

PRACTISES FOR SALE AND HELP WANTED

FOR SALE—Dental Practice Windsor, Ont. Apply Ash & Sons

FOR SALE—Dental Practice, St. Stephen, N.B. Apply Ash & Sons

FOR SALE—Dental Practice, Langham, Sask. Apply Ash & Sons

GRADUATE ASSISTANT WANTED—New Brunswick. Must be Experienced. Apply Ash & Sons

---

SECOND-HAND GOODS

1 Davis Gasometer, less Face Piece and Tubing, excellent condition - - - - - - - - - - $18

1 Davis Gasometer
1 Mills Centrifugal Casting Outfit } - - - - - - 25
1 Olivian Swager

1 Ritter Overhead All Cord Engine, 110 V., D.C. with H.P. and R.A. - - - - - - - - - - 75

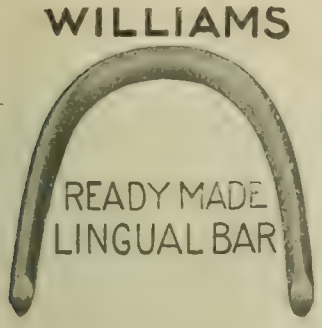
1 Electro Dental Water Glass Heater - - - - - 6

2 Ritter Battery Engines. New. Will sell cheap.

1 Second-hand Ritter Caustic Potash Battery Engine. New 150

1 Second-hand Ritter Storage Battery, Engine and Lathe cost of operating has not exceeded 50c per month. In A1 condition. An offer is requested.

Claudius Ash, Sons & Co., Limited



WILLIAMS READY MADE LINGUAL BARS are properly bent, contoured, and semi-adjusted so that with very little manipulation they can be made to fit any case. Made with both plain and corrugated ends.

GOLD CASED BARS

Made of WILLIAMS OVAL LINGUAL BAR 18 k. and guaranteed for 10 years.
Guages (8x12—9x14—10x13) - - $1.25 each

Made of WILLIAMS OVAL LINGUAL BAR 18 k. 1 5 the thickness of the bar, and guaranteed for 20 years. Guage 9x14, $1.50 each

SOLID GOLD BARS

Made of WILLIAMS 18 k. gold, 10 per cent. platinum
Guage 9x14, $4.00 each. Guage 10x13, $3.50 each.

Made of WILLIAMS 16 k. gold, 2 per cent. platinum
Guage 10x13, $2.00 each.

YOUR DEALER OR

THE WILLIAMS GOLD REFINING CO.

REFINERS TO THE DENTAL TRADE

682 MAIN STREET - - BUFFALO, N.Y.

ZIMO

The best obtundent on the market for the painless extraction of teeth and minor surgery; Antiseptic and Germicidal Can be used in all cases; safe and effectual. No bad after effects. Once used, always used "ZIMO is a great practice builder," as everyone says who has used it. 4 oz. bottle, **$1.00**; 6 bottles, **$5.00**. Every bottle guaranteed Try a bottle; if not all right send it back and get your money

Manufactured and put up by

DR. S. T. WHITNEY

ST. STEPHEN, N.B. - - CANADA

General Agents:

CLAUDIUS ASH, SONS & CO., Limited

11-13 Grenville Street, Toronto, Ont.

DEFEAT
THE
HIGH COST
OF
PLATINUM
USE
METALITE
TEETH

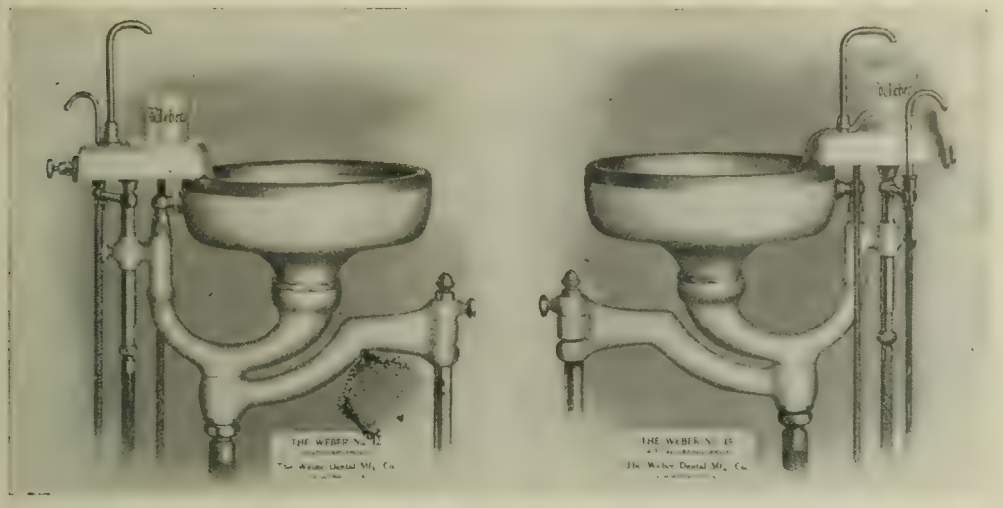
Made of the famous

Consolidated Porcelain



Consolidated Dental Mfg., Co.

NEW YORK, N.Y.



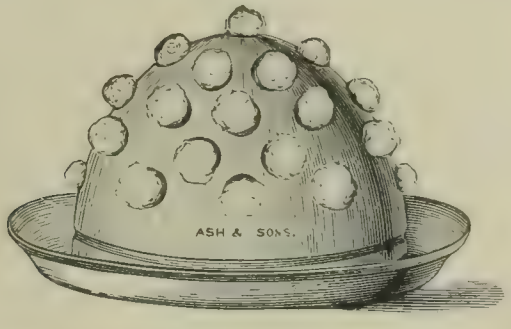
The most BEAUTIFUL and SUBSTANTIAL Cuspidor made.
With its superior patented features, has no equal anywhere at any price
GUARANTEED to satisfy and please, or money refunded.

The Weber Dental Manufacturing Company

CANTON, OHIO

The World's Largest Manufacturers of Fountain Cuspidors

Cutriss Cotton Pellet Holder



The difficulty of picking up one pellet at a time with the tweezers, owing to the lightness and adherent nature of the cotton, is entirely overcome by the use of this holder.

A loose dome with a spring and screw pillar is fitted inside the outer dome so that the pellets are kept close to the holes, consequently the last pellet is as easily taken hold of as the first.

The holder is a well-made solid affair much different from many of the pellet holders offered for sale.

Price, heavily nickelled $1.45

CLAUDIUS ASH, SONS & CO., Limited

ENDURANCE



Is the test of every man's work.

When we build a thing, will it last? When we fix a thing. will it stay fixed?

When you set an inlay or a facing, *its degree of permanency depends upon adaptation and that thin film of cement which holds it in place.* That is the point of strength or of weakness, of success or failure.

Modern dentistry has developed a great variety of operations requiring cementation. They are pretty generally successful because cements have grown better. But there still are failures due to cements of inferior quality,

There have been more crowns and bridges, more facings and inlays set with

Caulk's Crown and Bridge and Gold Inlay Cement

than with any other material. They have endured. Thus we have contributed in no small way to the success of modern dentistry.

There are cements that are cheaper, cements for which exaggerated and ridiculous claims are made; but throughout both America and Europe, in a high percentage of all operations requiring a cementing agent, Caulk's Crown & Bridge & Gold Inlay Cement is used.

We have been making cements for 38 years and we have learned something every year. Economy and Efficiency suggest

Caulk's Utility Package - $4.50

It contains four well-selected shades of zinc cement powder, sufficient liquid and a quantity of Copr-Zinc, to be added to the zinc cement when a copper cement is indicated.

THE L. D. CAULK COMPANY

Laboratories: Milford, Delaware, U.S.A.

Canadian Branch—70 Bond Street, Toronto, Ont.

SYNTHETIC PORCELAIN

ONE LIQUID AND A CHILLED SLAB

The setting time of a dental cement is largely affected by the temperature at which it is mixed. That temperature is determined chiefly by the temperature of the slab on which the powder and liquid are combined.

The temperature of a dental office may be 80 degrees in summer and 80 degrees in winter. Snowy landscapes do not indicate office temperatures.

A balanced cement requires balanced ingredients—known quantities. It means powders of uniform character, balanced with

ONE UNIFORM LIQUID

The liquid of Synthetic Porcelain is made in one setting only. That is necessary in order to maintain a balanced cement.

The best results are secured with a mixing temperature between 60 and 70 degrees, F. That means the temperature of the slab on which the mass is combined,

Place it under the cold water faucet or in a basin of cold water for a few minutes, wipe dry and proceed with the mix.

Instead of a variety of liquids to suit a variety of temperatures, control the conditions under which the mix is made.

Don't begin to finish Synthetic fillings under 10 to 15 minutes after insertion. To disturb any plastic filling before crystallization has materially advanced means an inferior result. This applies to any silicate cement.

Don't apply heat to a filling to accelerate the setting. Heat hastens the setting at the surface, while the bulk sets more slowly, resulting in a weakened mass.

THE L. D. CAULK COMPANY

Laboratories: Milford, Delaware, U.S.A.

Canadian Branch—70 Bond Street, Toronto, Ont.

GOLD and Your Laboratory

My Gold Work to the Dental Profession is NOT made to a PRICE.

The quality of the Gold I use is never lowered.

All Crowns made of 22 k, Gauge 29.

All Solder is 18 k. Fineness guaranteed.

I guarantee satisfaction and give you in the finished product, what your money entitles you to.

CHARLES L. DALY

11-13 GRENVILLE STREET

Phone N. 5776 **TORONT**

The Year just passed has given Birth to New Methods and Ideas that have greatly Benefitted and advanced the Dental Profession.

We feel justified in claiming that, as Manufacturers of the Highest Quality of Porcelain Teeth, we have added our share to this advancement by making it possible for the Practitioner (who wants something better than the average) to obtain a Detached Shoulder Pin Porcelain Crown with Five New Distinctive Features.

The large demand we have had, since the introduction of

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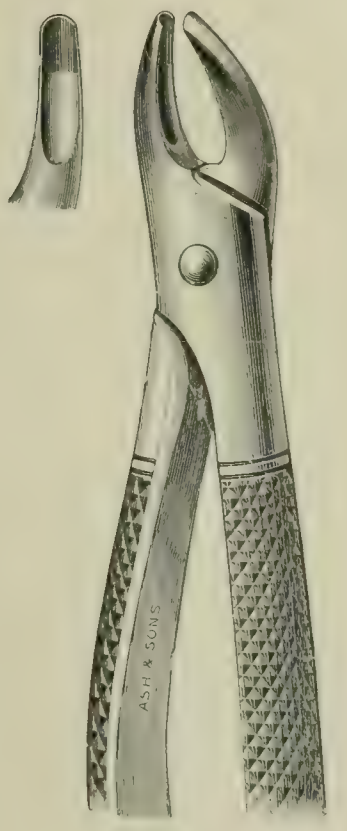
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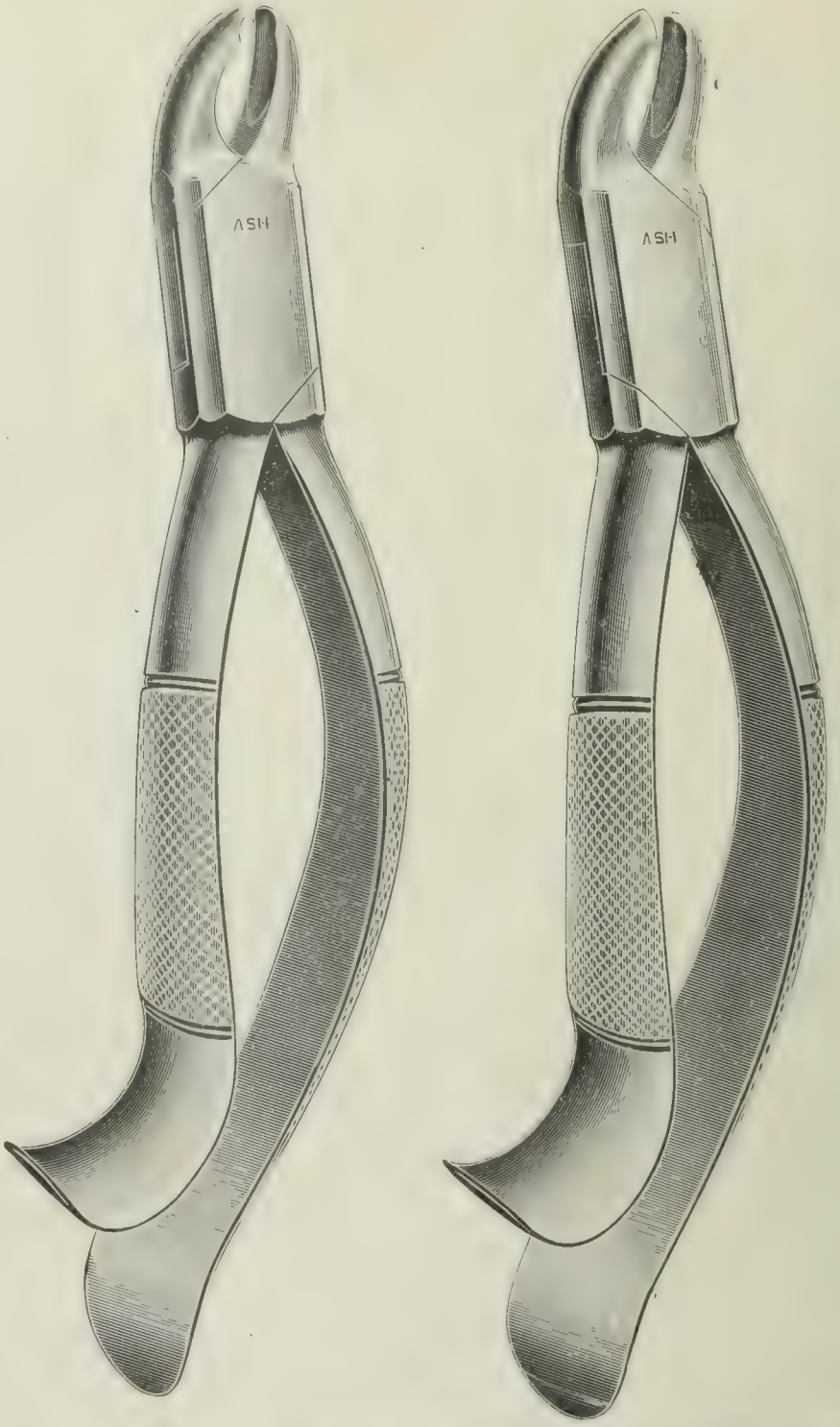


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